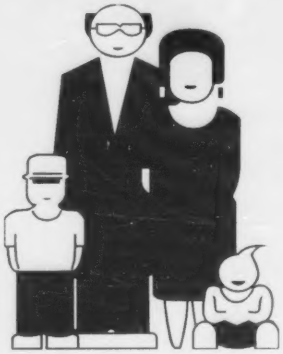
Traffic Collision Statistics Report



1999

Manitoba
Transportation and
Government Services

Preface

The Department of Transportation and Government Services, through the Division of Driver and Vehicle Licencing and the Traffic Engineering Branch, has the responsibility for the collection of all traffic collision data in Manitoba. The Traffic Accident Report is the means by which accident data is collected. Under *The Highway Traffic Act* and *The Off-Road Vehicles Act*, all traffic collisions involving a fatality or an injury must be reported to a law enforcement agency. A fatal traffic accident is defined as a collision where an injured victim dies within thirty (30) days from the date of the accident. Property damage collisions in excess of $1,000.00 combined damage must also be reported to a law enforcement agency.

Traffic Accident Reports (TARs) are produced for all reportable traffic accidents occurring on public highways (roadways). These accidents involve a motor vehicle as defined under *The Highway Traffic Act* in collision with another motor vehicle, a pedestrian, a train, a bicycle, animals or inanimate objects such as buildings, trees, hydro poles, or embankments alongside a highway.

Traffic accident reports must also be completed for reportable traffic accidents involving snowmobiles and all-terrain motor vehicles, etc. as defined under *The Off-Road Vehicles Act*. Off-road vehicle traffic collisions may occur on a public roadway, a ditch alongside a roadway, a groomed trail, a bush road, lakeshore, riverbank, floodway, or any other public property.

Law enforcement personnel record the following on a traffic accident report:

- Roadway description
- Light and weather conditions
- Traffic control information
- Major contributing factors to collision causation,
    - Driver action
    - Human condition
    - Vehicle condition
    - Environmental condition
- Vehicle types
- Driver/victim information,
    - Age
    - Gender
    - Injury severity
    - Seatbelt usage

The Traffic Collision Statistic Report comprises two parts. Part 1, Driver, Vehicle and Traffic Collision Statistics, contains twelve sections. Section 1, Historical Trends, presents a comparison of collision data to driver licencing and vehicle registration statistics for the years 1990 to 1999. Section 2, Licenced Drivers and Section 3, Vehicle Registrations utilize information contained in the Division's master computer files to illustrate 1999 licencing and vehicle registration activity. Collision statistics from the 1999 traffic accident reports form the basis for the following sections: Traffic Collisions (Section 4), Collision Victims (Section 5), Pedestrian Victims (Section 6), Vehicle Involvement (Section 7), Driver Involvement (Section 8), Contributing Factors (Section 9), National Safety Code Monitoring Report (Section 10), and Off-Road Vehicle Collisions (Section 11). Section 12, Alcohol-Related Criminal Code Convictions, presents data on drinking and driving statistics in Manitoba from 1986 to 1998.

Part 2, Traffic Engineering Traffic Collision Statistics Report, contains three sections. In Section 1, Provincial Highway Collisions, traffic accidents occurring on the provincial highway system are summarized according to three distinct locations: urban, suburban and rural. These categories are defined according to the legal, posted speed limit on the provincial highway system: urban category – 50-60 km/h; suburban category – 70-80 km/h and the rural category – 90-100 km/h. Section 2, Construction-Related Collision, provides an overview of traffic accidents within construction or maintenance zones on the highway system. Section 3, Intersection Collision Data, presents collision frequencies at intersections of provincial highways and other roadways.

Table of Contents

Preface........ i

Abbreviations and Symbols........ ix

Part 1: Driver, Vehicle, and Traffic Collision Statistics Report

Introduction........ 3

Section 1: Historical Trends

Fatal, Injury, and Property Damage Collisions by Total Licenced Drivers, 1990-1999........ 7
Fatal, Injury, and Property Damage Collisions by Vehicles Registered, 1990-1999........ 7
Graph, Total Collisions /1,000 Licenced Drivers and Vehicles Registered, 1990-1999........ 8
Graph, Fatal Collisions /10,000 Licenced Drivers and Vehicles Registered, 1990-1999........ 8
Graph, Injury Collisions /10,000 Licenced Drivers and Vehicles Registered, 1990-1999........ 9
Graph, Property Damage /10,000 Licenced Drivers and Vehicles Registered 1990-1999........ 9
Relative Involvement /1,000 Drivers by Age Group, 1990-1999........ 10
Graph, Relative Involvement /1,000 Drivers By Selected Age Groups, 1990-1999........ 10

Section 2: Licenced Drivers

By Age Group, Sex, and Driver Status........ 13
Graph, Comparison of Male and Female Suspended Drivers /100 Licenced Drivers........ 14
Total Licenced Drivers by Year and Driver Status, 1990-1999........ 14
By Licence Class, Driver Status, and Sex........ 15
Graph, Distribution of Total Drivers by Licence Class........ 15
Class Licence System Quick Reference Chart........ 16
Vehicle Classification Quick Reference Chart........ 16

Section 3: Vehicle Registrations

By Non-Commercial Vehicle Class........ 19
By Commercial Vehicle Class........ 19
Ten Year Summary, 1990-1999........ 20

Section 4: Traffic Collisions

Ten Year Summary, 1990-1999........ 23
Graph, Ten Year Summary, 1990-1999........ 24
By Month of Occurrence and Collision Type........ 25
Graph, Comparison of Fatal, Injury, and Property Damage Collisions by Month of Occurrence........ 25
By Day of Occurrence and Collision Type........ 26
Graph, Comparison of Fatal, Injury, and Property Damage Collisions by Day of Occurrence........ 26
By Time of Occurrence and Collision Type........ 27
Graph, Comparison of Total Traffic Collisions by Time of Occurrence and Collision Type........ 27
By Collision Type and Urban/Rural Location........ 28
By Road Surface Condition and Collision Type........ 29
Graph, Distribution of Total Collisions by Road Surface Condition........ 29
By Weather Condition and Collision Type........ 30
Graph, Distribution of Total Collisions by Weather Condition........ 30
By Provincial Location and Collision Type........ 31
Graph, Distribution of Total Collisions by Provincial Location /1,000 Population........ 31
By Accident Configuration and Collision Type........ 32
Graph, Distribution of Fatal Collisions by Accident Configuration........ 33
Graph, Distribution of Injury and Property Damage Collisions by Accident Configuration........ 33

Section 5: Collision Victims

Ten Year Summary, 1990-1999 37
Graph, Comparison of Collision Victims, Ten Year Summary, 1990-1999 37
By Month of Occurrence and Injury Type 38
Graph, Distribution of Total Collision Victims by Month of Occurrence 38
By Day of Occurrence and Injury Type 39
Graph, Comparison of Collision Victims by Injury Type and Day of Occurrence 39
By Time of Occurrence and Injury Type 40
Graph, Comparison of Collision Victims by Injury Type and Time of Occurrence 40
By Age Group, Injury Type, and Sex 41
Graph, Comparison of Collision Victims Killed by Age Group and Sex 41
Graph, Comparison of Collision Victims Injured by Age Group and Sex 42
Graph, Comparison of Total Collision Victims by Injury Type and Sex 42
Total Collision Victims Killed by Road User Class and Age Group 43
Graph, Comparison of Collision Victims Killed by Road User Class and Age Group 43
Total Collision Victims Injured by Road User Class and Age Group 44
Graph, Comparison of Collision Victims Injured by Road User Class and Age Group 44
By Collision and Injury Type 45
Graph, Distribution of Top Four Collision Types by Killed and Injured 45
By Accident Configuration and Injury Type 46
Graph, Distribution of Collision Victims Killed by Accident Configuration 47
Graph, Distribution of Collision Victims Injured by Accident Configuration 47
By Vehicle Defect and Injury Type 48
By Provincial Location and Injury Type 49
Graph, Distribution of Total Collision Victims by Provincial Location /1,000 Population 49
By Safety Equipment and Ejection, Fatal Vehicle Occupant Victims 50

Section 6: Pedestrian Victims

Ten Year Summary, 1990-1999 53
Graph, Comparison of Pedestrian Victims, 1990-1999 53
By Month of Occurrence and Injury Type 54
Graph, Distribution of Total Pedestrian Victims by Month of Occurrence 54
By Day of Occurrence and Injury Type 55
Graph, Comparison of Pedestrian Victims by Day of Occurrence and Injury Type 55
By Time of Occurrence and Injury Type 56
Graph, Comparison of Pedestrian Victims by Time of Occurrence and Injury Type 56
By Age Group and Injury Type 57
Graph, Distribution of Total Pedestrian Victims by Age Group 57
By Pedestrian Action and Injury Type 58
By Pedestrian Action and Age Group 59

Section 7: Vehicle Involvement

Ten Year Summary, 1990-1999 63
Graph, Vehicle Involvement by Injury and Property Damage Collision Type, 1990-1999 63
By Vehicle Type and Collision Type 64
By Hazardous Load Type and Collision Type 65

Section 8: Driver Involvement

Ten Year Summary, 1990-1999 69
Graph, Driver Involvement in Traffic Collisions by Injury and Property Damage Collision Type 69
By Age Group, Sex and Collision Type 70

Graph, Comparison of Driver Involvement in Traffic Collisions by Age Group and Collision Type 71
By Age Group, Sex and Relative Involvement /1,000 Drivers 72
Graph, Distribution of Driver Involvement in Traffic Collisions by Age Group and Relative Involvement /1,000 Drivers 73
Graph, Comparison of Relative Involvement Rates /1,000 Drivers by Age Group and Sex 73

Section 9: Contributing Factors

Driver Involvement in Traffic Collisions by Driver Action and Collision Type 77
Graph, Comparison of Selected At-Fault Driver Actions in Fatal Traffic Collisions 78
Graph, Comparison of Selected At-Fault Driver Actions (Injury/Property Damage) 78
Driver Involvement in Fatal Traffic Collisions by Driver Action and Age Group 79
Driver Involvement – Injury/Property Damage Collisions by Driver Action and Age Group 80
Graph, Rate of At-Fault Driver Actions/1,000 Active Licenced Drivers and Age Group 81
Graph, Rate of Speed-Related At-Fault Driver Actions/1,000 Active Licenced Drivers 82
Graph, Fail to Yield/Disobeyed Traffic Control Actions/1,000 Active Licenced Drivers 82
Driver Involvement in Traffic Collisions by Human Condition and Collision Type 83
Graph, Comparison of At-Fault Human Condition Factors in Fatal Traffic Collisions 83
Graph, At-Fault Human Condition Factors in Injury Traffic Collisions 84
Graph, At-Fault Human Condition Factors in Property Damage Collisions 84
Driver Involvement in Fatal Traffic Collisions by Human Condition and Age Group 85
Driver Involvement in Injury and Property Damage Collisions by Human Condition and Age Group ... 86
Graph, Rate of At-Fault Human Condition Factors by Age Group 87
Graph, Rate of Alcohol-Related Human Condition Factors by Age Group 87
Vehicle Involvement in Traffic Collisions by Vehicle Defect and Collision Type 88
Graph, Distribution of At-Fault Vehicle Defect Factors in Collision Causation 89
Vehicle Involvement in Traffic Collisions by Environmental Condition and Collision Type 90
Graph, Distribution of Environmental At-Fault Factors in Collision Causation 91

Section 10: National Safety Code Monitoring Report

Commercial Vehicle Traffic Collisions By NSC Commercial Vehicle Category and Collision Type 95
Graph, Commercial Vehicle Collisions by NSC Commercial Vehicle Category and Collision Type 95
Commercial Vehicle Collision Victims by NSC Commercial Vehicle Category and Injury Type 96
Graph, Commercial Vehicle Collision Victims by NSC Commercial Vehicle and Collision Severity 96
Commercial Vehicle Involvement in Collisions by Pre-Collision Activity and Collision Type 97
Commercial Driver Involvement in Collisions by At-Fault Human Condition and Collision Type 98
Graph, Distribution of At-Fault Human Condition Factors in Commercial Vehicle Collisions 98

Section 11: Off-Road Vehicle Collisions

Collision Summary, 1991-1999 101
Graph, Off-Road Vehicle Collisions by Victims, Vehicle and Driver Involvement, 1991-1999 101
Collision Summary by Vehicle Involvement 102
By Month of Occurrence and Collision Type 103
Graph, Distribution of Total Off-Road Vehicle Collisions by Month of Occurrence 103
By Day of Occurrence and Collision Type 104
Graph, Comparison of Off-Road Vehicle Collisions by Day of Occurrence and Collision Type 104
By Time of Occurrence and Collision Type 105

Graph, Comparison of Total Off-Road Vehicle Collisions
by Time of Occurrence and Collision Type 105
By Collision Location and Collision Type........ 106
Graph, Distribution of Total Off-Road Vehicle Collisions by Collision Location 106
Off-Road Vehicle Collision Victims by Age Group, Injury Type, and Sex 107
Off-Road Vehicle Collision Victims by Safety Equipment and Injury Type........ 107
Driver Involvement by Driver Action and Collision Type 108
Graph, Comparison of At-Fault Driver Actions in Off-Road Vehicle Collisions 109
Driver Involvement by At-Fault Human Condition Factors and Collision Type 110
Graph, Comparison of At-Fault Human Condition Factors by Collision Type........ 110
Driver Involvement by Age Group and Collision Type........ 111
Graph, Distribution of Total Driver Involvement in Off-Road Vehicle Collisions
by Age Group........ 111

Section 12: Alcohol-Related Criminal Code Convictions

Total Alcohol-Related Criminal Code Offences
by Accident/No Accident Involvement, 1984-1998........ 115
Total Alcohol-Related Criminal Code Offences by Age Group, 1987-1998 116
Graph, Comparison Percentage Change Statistics by Selected Age Groups 1987-1998 116
Comparison of Alcohol-Related Criminal Code Offences
by Active Licenced Drivers and Selected Age Group, 1986, 1990 and 1998 117
Ratio of Alcohol-Related Criminal Code Offences to Licenced Drivers
by Selected Age Groups, 1986, 1990 and 1998 118
Graph, Comparison of Relative Involvement Rate /1,000 Drivers
by Age Groups, 1986, 1990 and 1998 118
Alcohol-Related Criminal Code Offences
by First Offence Occurrence Rate and Age Group, 1986, 1990 and 1998 119
Graph, Comparison of First Occurrence Involvement Rate/1,000
by Age Groups, 1986, 1990 and 1998 119
Alcohol-Related Criminal Code Offences
by Second Offence Occurrence Rates and Age Group, 1986, 1990 and 1998 120
Graph, Comparison of Second Occurrence Relative Involvement Rate/1,000
by Age Groups, 1986, 1990 and 1998 120
Alcohol-Related Criminal Code Offences
by Third/Subsequent Offence Occurrence Rates and Age Group, 1986, 1990 and 1998...... 121
Graph, Comparison of Third/Subsequent Occurrence Relative Involvement Rate/1,000
by Age Groups, 1986, 1990 and 1998 121
Total Alcohol-Related Criminal Code Offences by Age Group and Conviction Type, 1998 122

Part II Traffic Engineering Branch

Preface........ 125

Section 1: Provincial Highway Collisions

Graph, Collision Trends by Posted Speed Limits, 1990-1999........ 127
By Severity and Category........ 129
Graph, Total Provincial Collisions by Accident Severity........ 129
By Number of Vehicles Involved and Category........ 130
Graph, Total Provincial Highway Collisions by Number of Vehicles Involved........ 130
By Light Condition and Category........ 131
Graph, Provincial Highway Collisions by Light Conditions and Category 131

By Weather Condition and Category 132
Graph, Total Provincial Highway Collisions by Weather Condition 132
By Road Surface Condition and Category 133
Graph, Total Provincial Highway Collisions by Road Surface Condition 133
By Road Condition and Category 134
Graph, Total Provincial Highway Collisions by Road Condition 134
By Month of Occurrence and Category 135
Graph, Provincial Highway Collisions by Month of Occurrence and Category 135
By Day of Week and Category 136
Graph, Provincial Highway Collisions by Day of Week and Category 136
By Hour of Day and Category 137
By Vehicle Type and Category 138
By Collision Configuration and Category 139
Driver/Pedestrian Involvement by Age Group and Category 140
Graph, Driver/Pedestrian Involvement in Provincial Highway Collisions by Age Group and Category 140
Percentage of Active Drivers Involved in Collisions by Age Group and Category 141
Graph, Percentage of Provincial Highway Collisions by Driver's Age and Category 141
By Collision Site Type and Category 142
Graph, Provincial Highway Collisions by Top Five Site Types and Category 142
Vehicle Involvement by Sequence of Events, Collision With and Category, Part I 143
Vehicle Involvement by Sequence of Events, Collision With and Category, Part II 144
Contributing Factors by Driver Action and Category 145
Contributing Factors by Human Condition and Category 146
Contributing Factors by Vehicle Condition and Category 147
Contributing Factors by Environmental Condition and Category 148
Vehicle Involvement by Traffic Control/Advisory and Category 149

Section 2: Comparison of Construction Sites with Non-Construction Sites

Graph, Comparison of Highway Collisions in Construction/Repair Areas 151
Graph, Comparison of Highway Collisions by Severity 153
Graph, Comparison of Highway Collisions by Weather Condition 153
Graph, Comparison of Highway Collisions by Light Condition 154
Comparison of Highway Collisions by Traffic Control/Advisory 154
Comparison of Highway Collisions by Site Type 155
Comparison of Highway Collisions by First Collision or Event 155
Comparison of Highway Collisions by Contributing Factors 156

Section 3: Comparison of Intersection Collision Data 1990-1999

Expressway - Expressway - Rural 159
Expressway - Primary Arterial - Rural 160
Expressway - Secondary Arterial - Rural 161
Expressway - Secondary Arterial - Urban 162
Expressway - Collector - Rural 163
Expressway - Collector - Suburban 164
Primary Arterial - Primary Arterial - Rural 165
Primary Arterial - Primary Arterial – Suburban 166
Primary Arterial - Secondary Arterial - Rural 167
Primary Arterial – Secondary Arterial – Urban 168
Primary Arterial – Collector – Rural 169
Primary Arterial – Collector – Suburban 170
Secondary Arterial – Secondary Arterial –Rural 171
Secondary Arterial – Secondary Arterial – Urban 171
Secondary Arterial – Collector – Rural 172

Secondary Arterial – Collector- Suburban 173
Secondary Arterial - Collector -- Urban 173
Collector – Collector – Rural 174
Collector – Collector – Suburban 175
Collector – Collector – Urban 175
Signalized – Suburban 176
Signalized – Urban 177

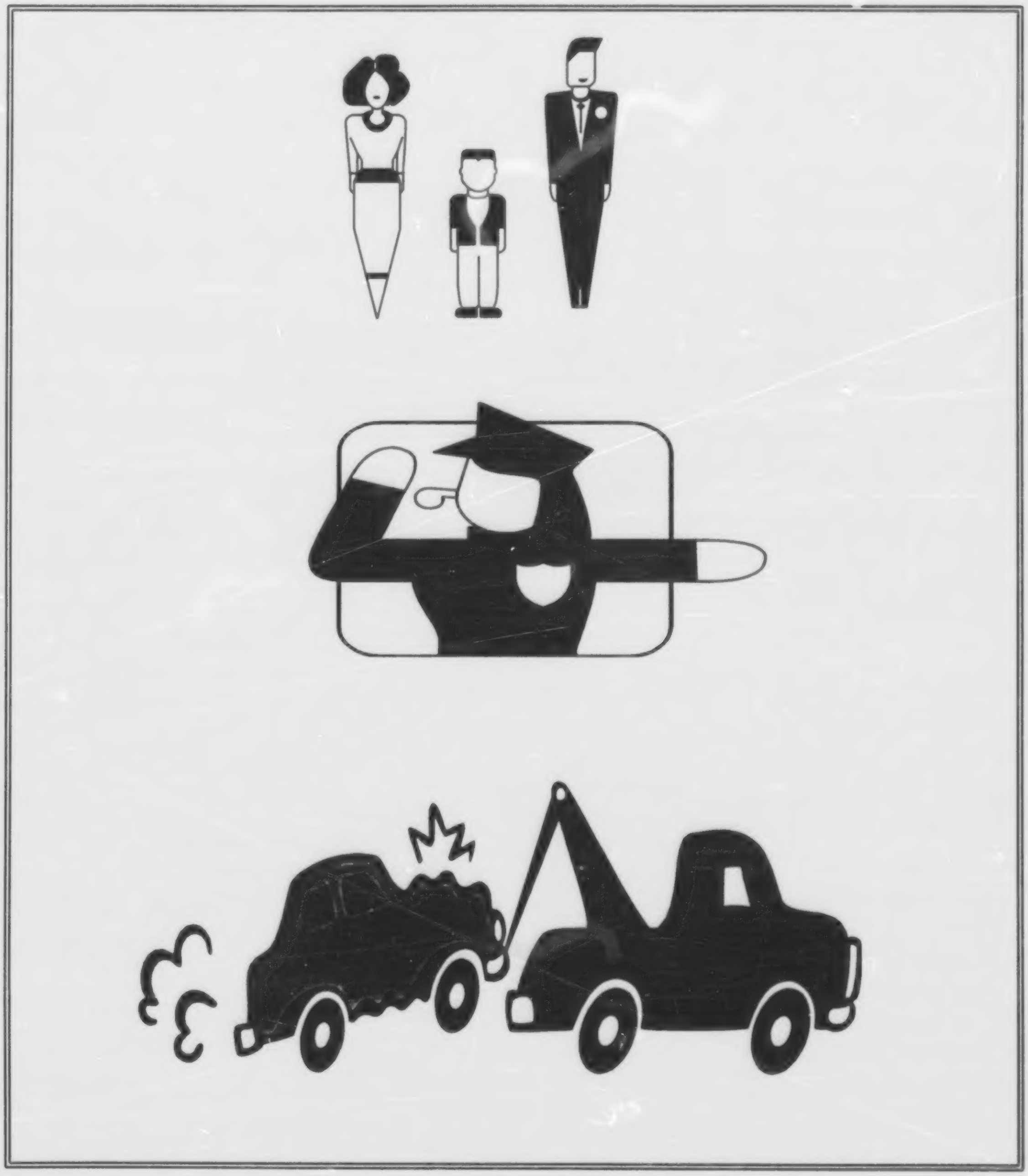
Glossary 179

Abbreviation and Symbols

F	Female
M	Male
M/cycle	Motorcycle
N/A	Not Available
NS	Not Stated
NSC	National Safety Code
ORV	Off-Road Vehicles
P. Damage	Property Damage
TARs	Traffic Accident Reports
Ttl	Total
-.-	Minus or Negligible

Part 1

Driver, Vehicle and Traffic Collision Statistics Report



Introduction

The Driver, Vehicle and Traffic Collision Statistics Report contains information obtained from all "reportable" traffic accidents in Manitoba. Collision statistics are presented in a series of tables and graphs depicting nationally recognized collision characteristics. These characteristics encompass all causal variables whether related to driver involvement, vehicle involvement or external physical environment, including the condition of the highway.

The first section of the report examines historical accident data in relation to the number of licenced drivers and vehicles registered each year. The ratio of collisions /1,000 licenced drivers and /1,000 vehicles registered is provided for a ten year period. In respect to fatal, injury and property damage collisions, the ratio /10,000 licenced drivers and /10,000 vehicles registered is presented.

Section 2, Licenced Drivers and Section 3, Vehicle Registrations utilize data contained in the master data files. Licenced driver statistics are examined by age and sex and whether or not the licences were active or suspended. Vehicle registration statistics examine registered vehicles according to three categories: Non-Commercial, Commercial, and Off-Road Vehicles.

Collision data obtained from traffic accident reports processed by the Division forms the basis for Sections 4 through 10.

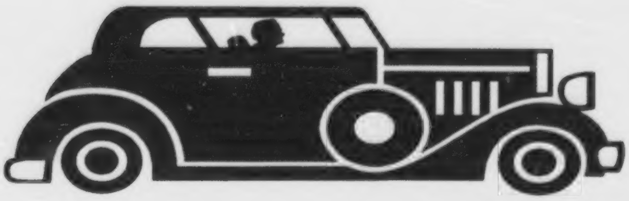
Section 11, Off-Road Vehicle Collisions utilizes accident data obtained from traffic accident reports processed separately by the Research Section.

Section 12, Alcohol-Related Criminal Code Convictions highlights drinking and driving convictions in Manitoba from 1986 to 1998 and also provides comparison data for the years 1986, 1990 and 1998.

Annual collision statistics are used to:
- delineate trends,
- identify problem driver and vehicle factors,
- evaluate current programs and new provincial road safety initiatives,
- monitor commercial vehicle collisions in accordance with the National Safety Code,
- identify highway locations which may require improvement from a safety and a highway planning perspective, and
- guide development of new policies and programs to reduce the frequency and severity of traffic accidents in the province.

Other government agencies and organizations use the annually published collision data. These organizations include law enforcement agencies, research organizations, consultants, medical groups, and schools and universities having an interest in highway safety. Manitoba Public Insurance's Road Safety Department uses collision data to target and address safety issues from an insurance perspective. The Manitoba Safety Council uses collision data to develop driver improvement and other driver-related safety programs. On a national level, Transport Canada uses the collision data to maintain their fatal and injury accident data base development for national safety standards and to monitor highway safety across Canada.

Section 1



Historical Trends

Fatal, Injury, and Property Damage Collisions by Total Licenced Drivers[1]
1990 - 1999

Year	Licenced Drivers	Total Collisions	Collisions /1,000 Drivers	Total Fatal	Fatal /10,000 Drivers	Total Injury	Injury /10,000 Drivers	Total P. Damage	P. Damage /10,000 Drivers
1990	664564	36211	54.5	104	1.6	9504	143.0	26603	400.3
1991	669598	38545	57.6	107	1.6	10689	159.6	27749	414.4
1992[2]	672960	30383	45.1	106	1.6	11245	167.1	19032	282.8
1993	672937	29435	43.7	106	1.6	10906	162.1	18423	273.8
1994	675659	29744	44.0	98	1.5	9706	143.7	19940	295.1
1995	680142	32398	47.6	108	1.6	8783	129.1	23507	345.6
1996	684798	29089	42.5	79	1.2	7509	109.7	21501	314.0
1997	687229	27113	39.5	101	1.5	6698	97.5	20334	295.9
1998	692941	27124	39.1	109	1.6	6879	99.3	20136	290.6
1999	702851	28667	40.8	99	1.4	6959	99.0	21609	307.4

[1] Licenced drivers include active and suspended drivers who held a valid licence within the licencing year.
[2] On January 1, 1992, the collision reporting threshold level increased from $500.00 to $1,000.00.

Over the past 10 years, traffic collisions have decreased by more than 20.8% (36,211 to 28,667) while licenced drivers have increased by 5.8%. Collision rates for licenced drivers have decreased by 25.1% from 54.5/1,000 drivers in 1990 to 40.8/1,000 drivers in 1999. Fatal collision rates decreased by 12.5% from 1.6/10,000 drivers in 1990 to 1.4/10,000 drivers in 1999. Injury collision rates decreased by 30.8% from 143.0/10,000 drivers in 1990 to 99.0/10,000 drivers in 1999.

Fatal, Injury, and Property Damage Collisions by Vehicles Registered[1]
1990 - 1999

Year	Vehicles Registered [2]	Total Collisions	Collisions /1,000 Vehicles	Total Fatal	Fatal /10,000 Vehicles	Total Injury	Injury /10,000 Vehicles	Total P. Damage	P. Damage /10,000 Vehicles
1990	805271	36211	45.0	104	1.3	9504	118.0	26603	330.4
1991	806090	38545	47.8	107	1.3	10689	132.6	27749	344.2
1992[3]	818783	30383	37.1	106	1.3	11245	137.3	19032	232.4
1993	811503	29435	36.3	106	1.3	10906	134.4	18423	227.0
1994	827180	29744	36.0	98	1.2	9706	117.3	19940	241.1
1995	802510	32398	40.4	108	1.4	8783	109.4	23507	292.9
1996	796156	29089	36.5	79	1.0	7509	94.3	21501	270.1
1997	772162	27133	35.1	101	1.3	6698	86.7	20334	263.3
1998	763877	27124	35.5	109	1.0	6879	90.0	20136	264.0
1999	750219	28667	38.2	99	1.3	6959	93.0	21609	288.0

[1] Vehicles registered include cancellations during the registration year.
[2] Vehicles registered exclude off-road vehicles, snow vehicles (HTA), trailers (HTA), tractors other than farm and PSV trailers.
[3] On January 1, 1992, the collision reporting threshold increased from $500.00 to $1,000.00.

Over the last 10 years, traffic collisions and registered vehicles have declined. Collision rates have decreased by 15.1% from 45.0/1,000 vehicles registered in 1990 to 38.2/1,000 in 1999. While fatal collision rates have remained steady at 1.3/10,000, injury collision rates decreased by 21.2% from 118.0/10,000 vehicles registered in 1990 to 93.0/10,000 vehicles registered in 1999.

Fatal, Injury, and Property Damage Collisions by Total Licenced Drivers[1] 1990 - 1999

Year	Licenced Drivers	Total Collisions	Collisions /1,000 Drivers	Total Fatal	Fatal /10,000 Drivers	Total Injury	Injury /10,000 Drivers	Total P. Damage	P. Damage /10,000 Drivers
1990	664564	36211	54.5	104	1.6	9504	143.0	26603	400.3
1991	669598	38545	57.6	107	1.6	10689	159.6	27749	414.4
1992[2]	672960	30383	45.1	106	1.6	11245	167.1	19032	282.8
1993	672937	29435	43.7	106	1.6	10906	162.1	18423	273.8
1994	675659	29744	44.0	98	1.5	9706	143.7	19940	295.1
1995	680142	32398	47.6	108	1.6	8783	129.1	23507	345.6
1996	684798	29089	42.5	79	1.2	7509	109.7	21501	314.0
1997	687229	27113	39.5	101	1.5	6698	97.5	20334	295.9
1998	692941	27124	39.1	109	1.6	6879	99.3	20136	290.6
1999	702851	28667	40.8	99	1.4	6959	99.0	21609	307.4

[1] Licenced drivers include active and suspended drivers who held a valid licence within the licencing year.

[2] On January 1, 1992, the collision reporting threshold level increased from $500.00 to $1,000.00.

Over the past 10 years, traffic collisions have decreased by more than 20.8% (36,211 to 28,667) while licenced drivers have increased by 5.8%. Collision rates for licenced drivers have decreased by 25.1% from 54.5/1,000 drivers in 1990 to 40.8/1,000 drivers in 1999. Fatal collision rates decreased by 12.5% from 1.6/10,000 drivers in 1990 to 1.4/10,000 drivers in 1999. Injury collision rates decreased by 30.8% from 143.0/10,000 drivers in 1990 to 99.0/10,000 drivers in 1999.

Fatal, Injury, and Property Damage Collisions by Vehicles Registered[1] 1990 - 1999

Year	Vehicles Registered [2]	Total Collisions	Collisions /1,000 Vehicles	Total Fatal	Fatal /10,000 Vehicles	Total Injury	Injury /10,000 Vehicles	Total P. Damage	P. Damage /10,000 Vehicles
1990	805271	36211	45.0	104	1.3	9504	118.0	26603	330.4
1991	806090	38545	47.8	107	1.3	10689	132.6	27749	344.2
1992[3]	818783	30383	37.1	106	1.3	11245	137.3	19032	232.4
1993	811503	29435	36.3	106	1.3	10906	134.4	18423	227.0
1994	827180	29744	36.0	98	1.2	9706	117.3	19940	241.1
1995	802510	32398	40.4	108	1.4	8783	109.4	23507	292.9
1996	796156	29089	36.5	79	1.0	7509	94.3	21501	270.1
1997	772162	27133	35.1	101	1.3	6698	86.7	20334	263.3
1998	763877	27124	35.5	109	1.0	6879	90.0	20136	264.0
1999	750219	28667	38.2	99	1.3	6959	93.0	21609	288.0

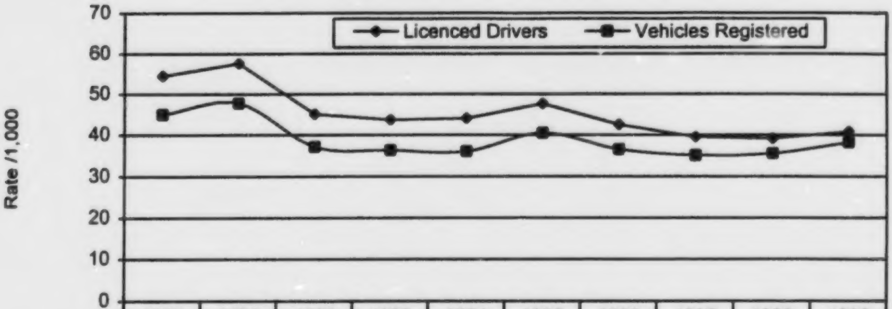
[1] Vehicles registered include cancellations during the registration year.

[2] Vehicles registered exclude off-road vehicles, snow vehicles (HTA), trailers (HTA), tractors other than farm and PSV trailers.

[3] On January 1, 1992, the collision reporting threshold increased from $500.00 to $1,000.00.

Over the last 10 years, traffic collisions and registered vehicles have declined. Collision rates have decreased by 15.1% from 45.0/1,000 vehicles registered in 1990 to 38.2/1,000 in 1999. While fatal collision rates have remained steady at 1.3/10,000, injury collision rates decreased by 21.2% from 118.0/10,000 vehicles registered in 1990 to 93.0/10,000 vehicles registered in 1999.

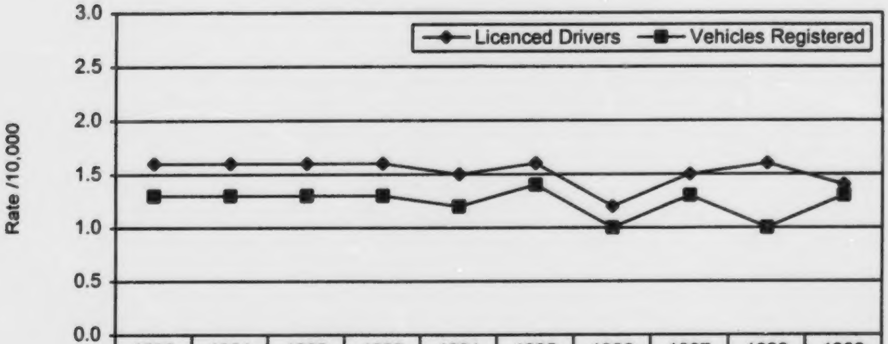
Total Collisions
/1,000 Licenced Drivers and Vehicles Registered
1990 - 1999



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Licenced Drivers	54.5	57.6	45.1	43.7	44.0	47.6	42.5	39.5	39.1	40.8
Vehicles Registered	45.0	47.8	37.1	36.3	36.0	40.4	36.5	35.1	35.5	38.2

This graph represents a 10-year history of collision rates by licenced drivers and vehicles. Reporting definitions must be considered when looking at past trends. Changes to the reporting thresholds have resulted in large decreases in property damage only collisions during 1992.

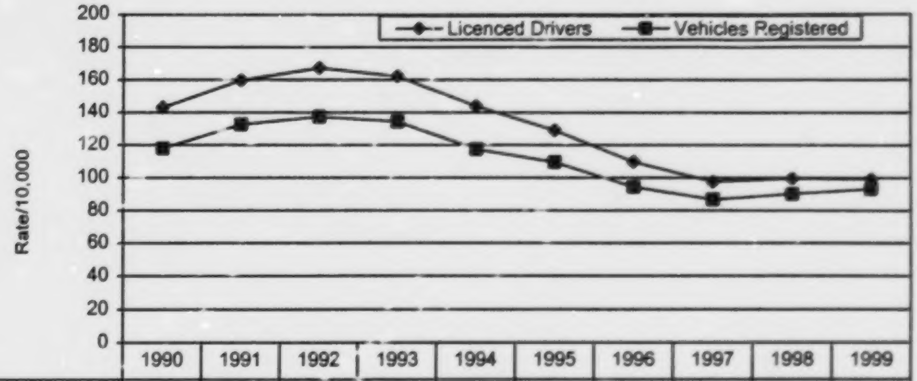
Fatal Collisions
/10,000 Licenced Drivers and Vehicles Registered
1990 - 1999



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Licenced Drivers	1.6	1.6	1.6	1.6	1.5	1.6	1.2	1.5	1.6	1.4
Vehicles Registered	1.3	1.3	1.3	1.3	1.2	1.4	1.0	1.3	1.0	1.3

Fatal collision rates by both licenced drivers and vehicles registered remained at a relatively stable level between 1990-1995, decreased in 1996, before returning to the previous level in 1997.

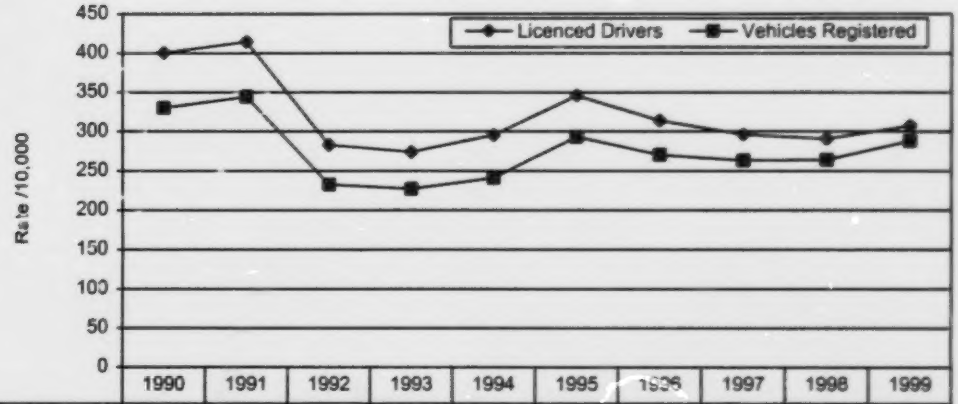
Injury Collisions
/10,000 Licenced Drivers and Vehicles Registered
1990 - 1999



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Licenced Drivers	143.0	159.6	167.1	162.1	143.7	129.1	109.7	97.5	99.3	99.0
Vehicles Registered	118.0	132.6	137.3	134.4	117.3	109.4	94.3	86.7	90.0	93.0

Injury collision rates rose between 1990 and 1992 but steadily declined until 1997, when it reached the lowest recorded level in 10 years. Slight increases are noted for years 1998 and 1999.

Property Damage Collisions
/10,000 Licenced Drivers and Vehicles Registered
1990 - 1999



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Licenced Drivers	400.3	414.4	282.8	273.8	295.1	345.6	314.0	295.9	290.6	307.4
Vehicles Registered	330.4	344.2	232.4	227.0	241.1	292.9	270.1	263.3	264.0	288.0

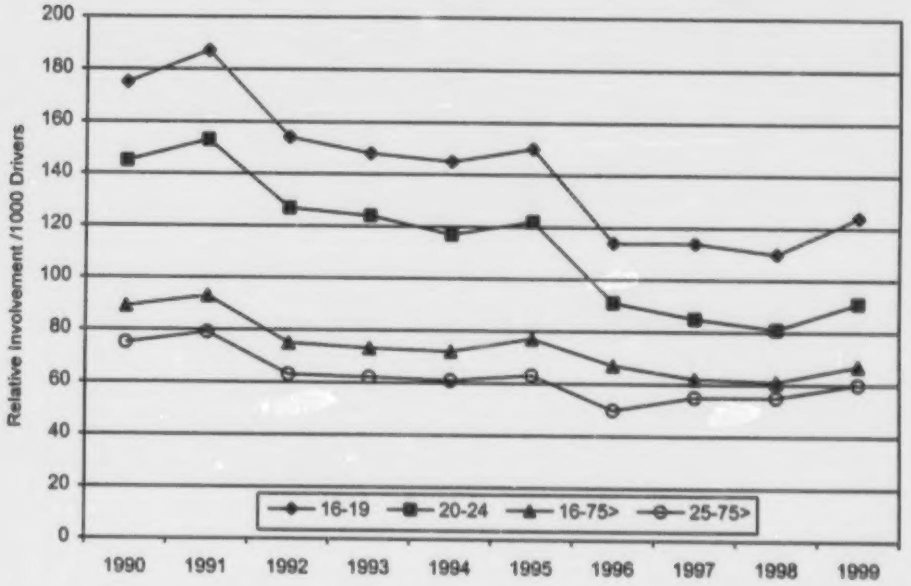
The sharp decline in property damage collision rates in 1991-92 was primarily due to the change in the collision-reporting threshold from $500.00 to $1,000.00 (effective January 1, 1992). Significant increases occurred in 1994, rising to a peak in 1995 before declining in 1996 and 1997 respectively. There was some stablization in 1998 before the rate rose again in 1999.

Relative Involvement
/1,000 Drivers by Age Group
1990 – 1999

Age Group	Year									
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
16-19	175	187	154	148	145	150	114	114	110	124
20-24	145	153	127	124	117	122	91	85	81	91
25-34	96	104	84	83	80	85	65	61	58	64
35-44	76	81	64	62	63	64	52	49	47	53
45-54	66	69	54	53	54	57	48	44	41	47
55-64	59	60	47	46	47	48	41	37	37	42
65-74	53	53	39	41	41	42	36	33	32	36
75>	55	53	45	43	43	45	32	27	35	38
Ages 16-75>	89	93	75	73	72	77	67	62	61	67
Ages 25-75>	75	79	63	62	61	63	50	55	55	60

Relative involvement rates indicate 16-19 year olds are more likely to be involved in collisions than any other age group. For instance, the relative involvement rates for "all ages 16-75>" are higher than for the "all ages 25-75>" group. *These relative involvement rates do not take into account the number of vehicle kilometres travelled by each age group in a given year.*

Relative Involvement
/1,000 Drivers by Selected Age Group
1990 – 1999

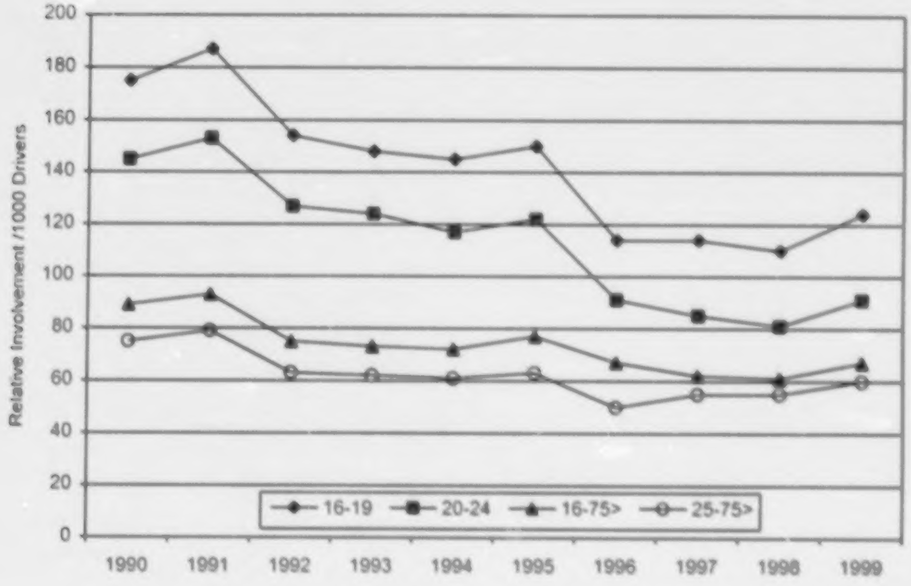


Relative Involvement
/1,000 Drivers by Age Group
1990 – 1999

Age Group	Year									
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
16-19	175	187	154	148	145	150	114	114	110	124
20-24	145	153	127	124	117	122	91	85	81	91
25-34	96	104	84	83	80	85	65	61	58	64
35-44	76	81	64	62	63	64	52	49	47	53
45-54	66	69	54	53	54	57	48	44	41	47
55-64	59	60	47	46	47	48	41	37	37	42
65-74	53	53	39	41	41	42	36	33	32	36
75>	55	53	45	43	43	45	32	27	35	38
Ages 16-75>	89	93	75	73	72	77	67	62	61	67
Ages 25-75>	75	79	63	62	61	63	50	55	55	60

Relative involvement rates indicate 16-19 year olds are more likely to be involved in collisions than any other age group. For instance, the relative involvement rates for "all ages 16-75>" are higher than for the "all ages 25-75>" group. *These relative involvement rates do not take into account the number of vehicle kilometres travelled by each age group in a given year.*

Relative Involvement
/1,000 Drivers by Selected Age Group
1990 – 1999



Section 2

Licenced Drivers

By Age Group, Sex, and Driver Status
1999

Age Group	Sex	Active Drivers	Suspended Drivers	Total Drivers	%	Suspended /100 Drivers
16-17	M	10951	380	11331		3.4
	F	10117	106	10223		1.0
	Total	21068	486	21554	3.1	2.3
18-19	M	11450	694	12144		5.7
	F	10527	112	10639		1.1
	Total	21977	806	22783	3.2	3.5
20-24	M	28003	2284	30287		7.5
	F	26877	350	27227		1.3
	Total	54880	2634	57514	3.2	4.6
25-34	M	61054	4513	65567		6.9
	F	58419	845	59264		1.4
	Total	119473	5358	124831	17.8	4.3
35-44	M	78751	4816	83567		5.8
	F	74589	979	75568		1.3
	Total	153340	5795	159135	22.6	3.6
45-54	M	66734	2891	69625		4.2
	F	62352	698	63050		1.1
	Total	129086	3589	132675	18.9	2.7
55-64	M	42764	1666	44430		3.7
	F	37319	429	37748		1.1
	Total	80083	2095	82178	11.7	2.6
65-74	M	31793	1619	33412		4.8
	F	26331	553	26884		2.1
	Total	58124	2172	60296	8.6	3.6
75-84 *	M	16863	2341	19204		12.2
	F	13617	1198	14815		8.1
	Total	30480	3539	34019	4.8	10.4
85> *	M	2851	2547	5398		47.2
	F	1462	1006	2468		40.8
	Total	4313	3553	7866	1.1	45.2
All Ages	M	351214	23751	374965		6.3
	F	321610	6276	327886		1.9
	Total	672824	30027	702851	100.0	4.3

*Active drivers include the annual average of drivers on file with a driver licence expiry date in the future. Suspended drivers refer to an annual average of drivers who are suspended.

The age groups 75-84 and 85> display a comparatively higher number of suspensions as drivers in these age groups typically represent drivers indefinitely suspended for medical reasons. As well, driving records are not presently culled from the driving file on a regular basis.

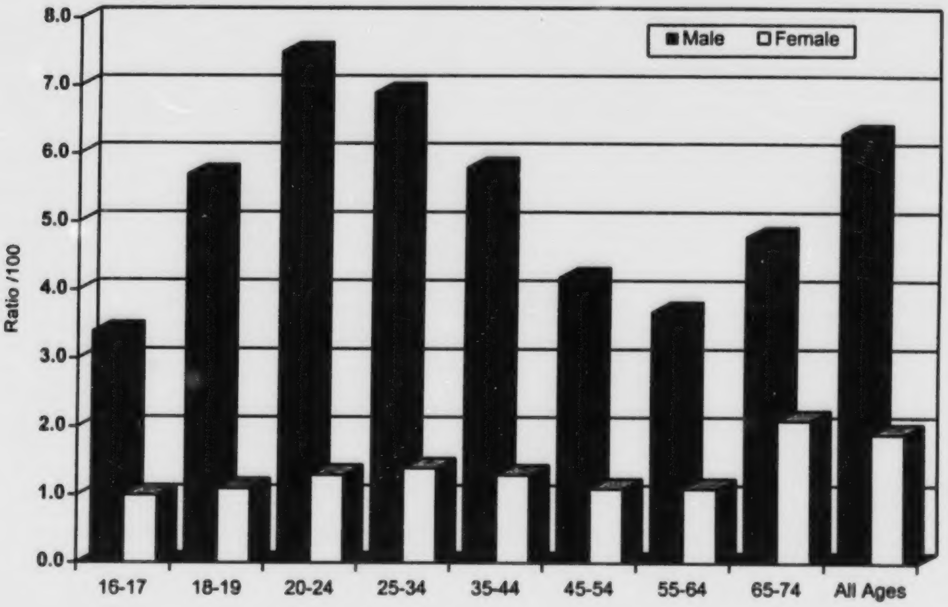
By Age Group, Sex, and Driver Status
1999

Age Group	Sex	Active Drivers	Suspended Drivers	Total Drivers	%	Suspended /100 Drivers
16-17	M	10951	380	11331		3.4
	F	10117	106	10223		1.0
	Total	21068	486	21554	3.1	2.3
18-19	M	11450	694	12144		5.7
	F	10527	112	10639		1.1
	Total	21977	806	22783	3.2	3.5
20-24	M	28003	2284	30287		7.5
	F	26877	350	27227		1.3
	Total	54880	2634	57514	8.2	4.6
25-34	M	61054	4513	65567		6.9
	F	58419	845	59264		1.4
	Total	119473	5358	124831	17.8	4.3
35-44	M	78751	4816	83567		5.8
	F	74589	979	75568		1.3
	Total	153340	5795	159135	22.6	3.6
45-54	M	66734	2891	69625		4.2
	F	62352	698	63050		1.1
	Total	129086	3589	132675	18.9	2.7
55-64	M	42764	1666	44430		3.7
	F	37319	429	37748		1.1
	Total	80083	2095	82178	11.7	2.6
65-74	M	31793	1619	33412		4.8
	F	26331	553	26884		2.1
	Total	58124	2172	60296	8.6	3.6
75-84 *	M	16863	2341	19204		12.2
	F	13617	1198	14815		8.1
	Total	30480	3539	34019	4.8	10.4
85> *	M	2851	2547	5398		47.2
	F	1462	1006	2468		40.8
	Total	4313	3553	7866	1.1	45.2
All Ages	M	351214	23751	374965		6.3
	F	321610	6276	327886		1.9
	Total	672824	30027	702851	100.0	4.3

*Active drivers include the annual average of drivers on file with a driver licence expiry date in the future. Suspended drivers refer to an annual average of drivers who are suspended.

The age groups 75-84 and 85> display a comparatively higher number of suspensions as drivers in these age groups typically represent drivers indefinitely suspended for medical reasons. As well, driving records are not presently culled from the driving file on a regular basis.

Comparison of Male and Female Suspended Drivers /100 Licenced Drivers*
1999



* The age groups 75-84 and 85> are not displayed.

Total Licenced Drivers by Year and Driver Status
1990 - 1999

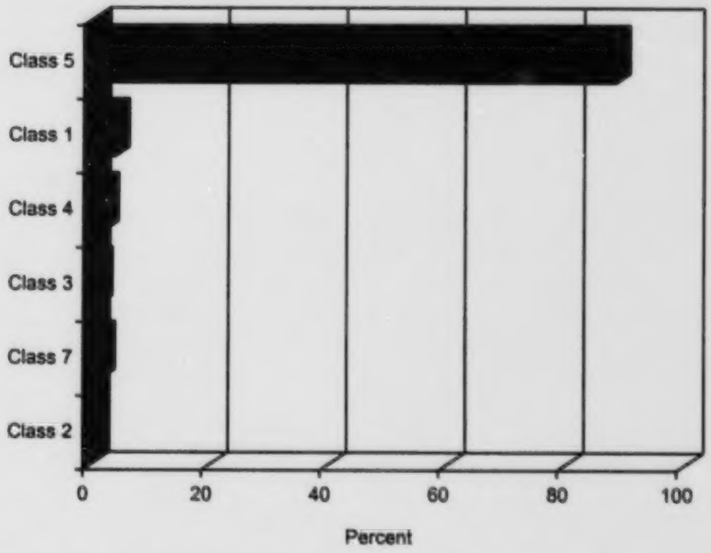
Licencing Year	Active Drivers	Suspended Drivers	Total Drivers
1990	638444	26120	664564
1991	642699	26899	669598
1992	645848	27112	672960
1993	646108	26829	672937
1994	648776	26883	675659
1995	652220	27922	680142
1996	655566	29232	684798
1997	658602	28627	687229
1998	663980	28961	692941
1999	672824	30227	702851

By Licence Class, Driver Status, and Sex
1999

Licence Class	Active Drivers				Suspended Drivers				Total	%
	Male	Female	S/Total	%	Male	Female	S/Total	%		
1.0	21009	961	21970	3.3	721	10	731	2.4	22701	3.2
1.6[1]	7345	93	7438	1.1	104	0	104	0.3	7542	1.1
2.0	3768	1432	5200	0.8	79	6	85	0.3	5285	0.8
2.6[1]	1096	89	1185	0.2	14	1	15	0.1	1200	0.2
3.0	7772	262	8034	1.2	272	4	276	0.9	8310	1.2
3.6[1]	2297	21	2318	0.3	38	0	38	0.1	2356	0.3
4.0	10047	3954	14001	2.1	531	56	587	2.0	14588	2.1
4.6[1]	2561	179	2740	0.4	49	1	50	0.2	2790	0.4
5.0	261012	303410	564422	83.9	19671	5653	25324	84.3	589746	83.9
5.6[1]	29559	3725	33284	4.9	818	22	840	2.8	34124	4.8
6.0	20	8	28	-.-	6	0	6	-.-	34	-.-
7.0	4728	7476	12204	1.8	1448	523	1971	6.6	14175	2.0
Total	351214	321610	672824	100.0	23751	6276	30027	100.0	702851	100.0

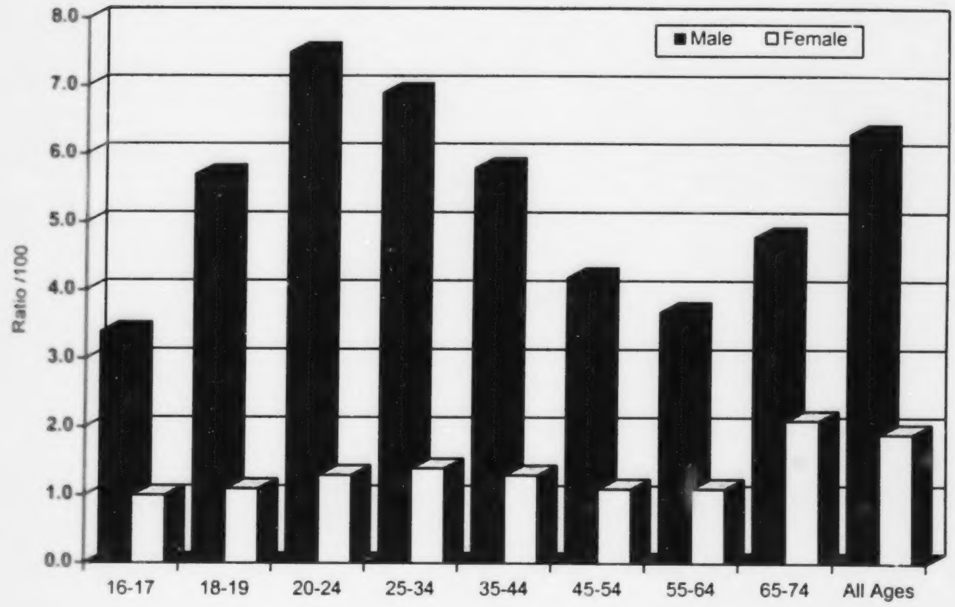
[1] .6 refers to a motorcycle licence held in conjunction with another class of class.

Distribution of Total Drivers
by Licence Class[1]
1999



[1] Licence Class .6 motorcycle designation included with whole number.

Comparison of Male and Female Suspended Drivers /100 Licenced Drivers*
1999



* The age groups 75-84 and 85> are not displayed.

Total Licenced Drivers
by Year and Driver Status
1990 - 1999

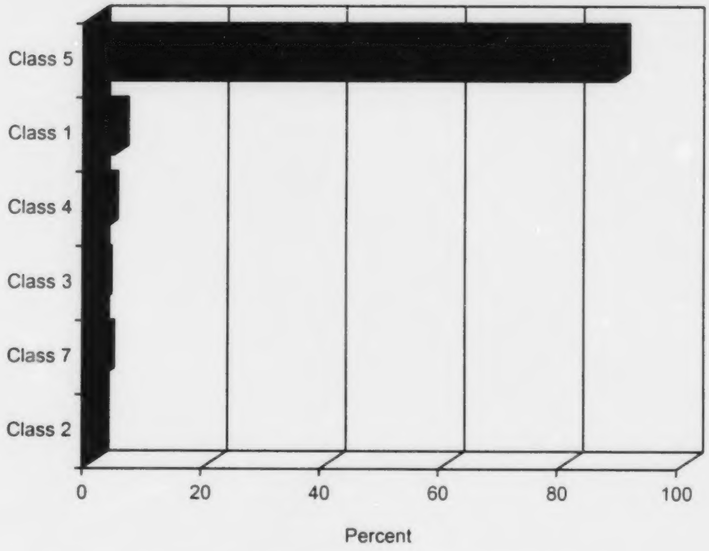
Licencing Year	Active Drivers	Suspended Drivers	Total Drivers
1990	638444	26120	664564
1991	642699	26899	669598
1992	645848	27112	672960
1993	646108	26829	672937
1994	648776	26883	675659
1995	652220	27922	680142
1996	655566	29232	684798
1997	658602	28627	687229
1998	663980	28961	692941
1999	672824	30227	702851

By Licence Class, Driver Status, and Sex
1999

Licence Class	Active Drivers				Suspended Drivers				Total	%
	Male	Female	S/Total	%	Male	Female	S/Total	%		
1.0	21009	961	21970	3.3	721	10	731	2.4	22701	3.2
1.6[1]	7345	93	7438	1.1	104	0	104	0.3	7542	1.1
2.0	3768	1432	5200	0.8	79	6	85	0.3	5285	0.8
2.6[1]	1096	89	1185	0.2	14	1	15	0.1	1200	0.2
3.0	7772	262	8034	1.2	272	4	276	0.9	8310	1.2
3.6[1]	2297	21	2318	0.3	38	0	38	0.1	2356	0.3
4.0	10047	3954	14001	2.1	531	56	587	2.0	14588	2.1
4.6[1]	2561	179	2740	0.4	49	1	50	0.2	2790	0.4
5.0	261012	303410	564422	83.9	19671	5653	25324	84.3	589746	83.9
5.6[1]	29559	3725	33284	4.9	818	22	840	2.8	34124	4.8
6.0	20	8	28	-.-	6	0	6	-.-	34	-.-
7.0	4728	7476	12204	1.8	1448	523	1971	6.6	14175	2.0
Total	351214	321610	672824	100.0	23751	6276	30027	100.0	702851	100.0

[1] .6 refers to a motorcycle licence held in conjunction with another class of class.

Distribution of Total Drivers
by Licence Class[1]
1999



[1] Licence Class .6 motorcycle designation included with whole number.

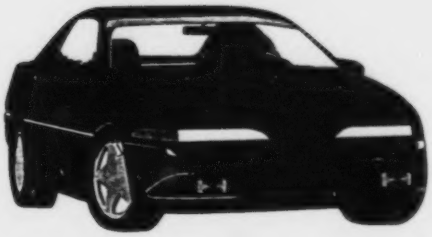
Class Licence System Quick Reference Chart

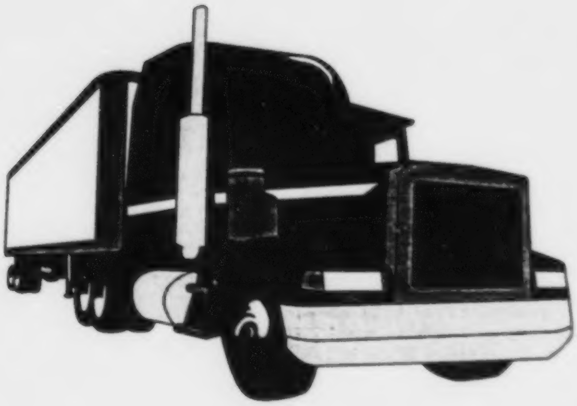
Licence Class	Description
1	Class 1 licence permits the holder to operate all motor vehicles (except motorcycles) or combination of vehicles, semi-trailers, trucks, buses, etc., including all vehicles in Classes 2, 3, 4, and 5.
2	Class 2 licence permits the holder to operate all vehicles except vehicles in Class 1 and 6.
3	Class 3 licence permits the holder to operate all motor vehicles except vehicles in Classes 1, 2, and 6.
4	Class 4 licence permits the holder to operate all motor vehicles except vehicles in Classes 1, 2, 3, and 6.
5	Class 5 licence permits the holder to operate a Class 5 motor vehicle and a Class 3 motor vehicle if it is registered as a farm truck.
6	Class 6 licence permits the holder to operate a motorcycle. Operation of vehicles in Classes 1 to 5 are prohibited, unless the Class 6 licence is held in conjunction with Class 1, 2, 3, 4 or 5 licence.
7	Class 7 licence permits the holder to drive as a learner within Classes 1 to 5, if shown on the licence, and accompanied by a licenced driver with at least 24 months driving experience in that class of vehicle. Class 7 licence may be used in conjunction with a valid motorcycle instruction permit.

Vehicle Classification Quick Reference Chart

Vehicle Class	Description
1	Semi-trailer trucks.
2	Buses having a seating capacity of over 24 passengers, while carrying passengers, and school buses having a seating capacity of over 36 passengers, while carrying passengers.
3	Trucks with more than two axles, including any combination of vehicles, or trucks with not more than two axles towing a vehicle with a registered gross vehicle weight (GVW) of more than 4,540 kg. but does not include a semi-trailer truck.
4	Taxis, ambulances, and any other emergency vehicles and buses having a seating capacity between and 24 passengers, while carrying passengers, or school buses having a seating capacity between 10 and 36 passengers, while carrying passengers.
5	Passenger cars, a bus while not carrying passengers, a truck with not more than two axles, and any combination of vehicles consisting of a truck with not more than two axles and a towed vehicle with a registered gross vehicle weight (GVW) of not more than 4, 540 kg.
6	Motorcycles.

Section 3





Vehicle Registrations

By Non-Commercial Vehicle Class
1999

Vehicle Class[1]	Total	%
Passenger	520809	66.8
Antique	79	-.-
Motorcycle/Moped	6571	0.8
Truck	124233	15.9
Farm Truck	50848	6.5
Snow Vehicle	67	-.-
Trailer	77804	10.0
Tractor (Other than Farm-type)	154	-.-
Total Vehicles Registered	780565	100.0
Cancellations	109065	
Final Total[2]	671500	
Off-Road Vehicles (*The Off-Road Vehicles Act*)		
Total ORV Registered	19863	
Cancellations	722	
Final Total[2]	19141	

1. For definition of these motor vehicle classes refer to the glossary.
2. Vehicles registered in the period March 1, 1998 to February 28, 1999.

By Commercial Vehicle Class
1999

Vehicle Class[1]	Total	%
Commercial Truck	25251	36.1
Public Service Vehicle Truck	6403	9.1
Dealer and Repairer	7425	10.6
Taxi/Livery	901	1.3
Public Service Vehicle Bus	196	0.3
Commercial Trailer[3]	29793	42.5
Public Service Vehicle Trailer	34	0.1
Total Vehicles Registered	70003	100.0
Cancellations	7505	
Final Total[2]	62498	

1. For definition of these motor vehicle classes refer to the glossary.
2. Vehicles registered in the period March 1, 1998 to February 28, 1999.
3. Trailers used in a commercial business.

By Non-Commercial Vehicle Class
1999

Vehicle Class[1]	Total	%
Passenger	520809	66.8
Antique	79	-.-
Motorcycle/Moped	6571	0.8
Truck	124233	15.9
Farm Truck	50848	6.5
Snow Vehicle	67	-.-
Trailer	77804	10.0
Tractor (Other than Farm-type)	154	-.-
Total Vehicles Registered	780565	100.0
Cancellations	109065	
Final Total[2]	671500	
Off-Road Vehicles (*The Off-Road Vehicles Act*)		
Total ORV Registered	19863	
Cancellations	722	
Final Total[2]	19141	

1. For definition of these motor vehicle classes refer to the glossary.
2. Vehicles registered in the period March 1, 1998 to February 28, 1999.

By Commercial Vehicle Class
1999

Vehicle Class[1]	Total	%
Commercial Truck	25251	36.1
Public Service Vehicle Truck	6403	9.1
Dealer and Repairer	7425	10.6
Taxi/Livery	901	1.3
Public Service Vehicle Bus	196	0.3
Commercial Trailer[3]	29793	42.5
Public Service Vehicle Trailer	34	0.1
Total Vehicles Registered	70003	100.0
Cancellations	7505	
Final Total [2]	62498	

1. For definition of these motor vehicle classes refer to the glossary.
2. Vehicles registered in the period March 1, 1998 to February 28, 1999.
3. Trailers used in a commercial business.

Ten Year Summary
1990 – 1999

Registration Class	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Vehicle Class (Non-Commercial)										
Passenger	539784	541017	548323	549980	555741	536565	543249	519922	516568	520809
Delivery Car[1]	445	295	240	197	171	N/A	N/A	N/A	N/A	N/A
Antique	21	54	77	115	96	55	54	54	86	79
Motorcycle/Moped	11680	11751	11122	10411	9932	9542	8290	8239	7929	6571
Truck	127958	126522	127981	128858	131926	125232	120856	119984	122725	124233
Farm Truck	65002	64002	64662	63671	63367	65526	56924	53480	51805	50848
Snow Vehicle	134	135	133	76	76	77	70	75	66	67
Trailer	88029	89131	90377	90817	94005	107375	79574	75638	74936	77804
Tractor (non-farm)	217	219	208	190	194	197	217	198	149	154
Subtotal	833270	833126	843123	844315	855508	844569	809234	777590	774264	780565
Less Cancellations	102480	101904	104697	108507	107058	88283	124306	121277	112947	109065
Total	730790	731222	738426	735808	748450	756286	684928	656313	661317	671500
Commercial Vehicle Class										
Commercial Truck	25845	25809	27380	27857	28904	26424	23648	24188	25035	25251
PSV – Truck	5017	4580	4897	5079	5253	5091	4984	5700	6062	6403
U-Drive Car/Truck[2]	2446	2533	2267	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dealer/Repairer [4]	4850	4878	4856	5112	5853	6141	7026	7128	6999[4]	7425
Taxi/Livery	832	868	841	852	840	866	963	1058	888	901
PSV-Bus	166	174	159	164	161	148	153	146	143	196
Trailers[3]	21225	23607	25978	19207	24936	26920	30009	32263	25637	29793
PSV-Trailers	17	14	14	11	20	18	18	17	20	34
Subtotal	60398	62463	66392	58282	65967	65608	66801	70500	64784	70003
Less Cancellations	5081	4405	4108	3498	3723	5189	6141	6572	6167	7505
Total	55317	58058	62284	54784	62244	60419	60660	63928	58617	62498
Total Registrations	786107	789280	800710	790592	810694	816705	745588	720241	719934	733998
Off-Road Vehicles										
Registrations	35664	21135	29978	35890	36706	23865	21884	21061	19957	19863
Less Cancellations	486	393	1182	467	2	1146	1464	949	614	722
Total	35178	20742	28796	35423	36704	22719	20420	20112	19343	19141

1. After 1995 delivery car included in regular passenger classification.
2. U-drive car and trucks combined with regular vehicle classes March 1993.
3. Commercial trailers including semi-trailers.
4. Corrected dealer/repairer total for 1998.

Ten Year Summary
1990 – 1999

Registration Class	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Vehicle Class (Non-Commercial)										
Passenger	539784	541017	548323	549980	555741	536565	543249	519922	516568	520809
Delivery Car[1]	445	295	240	197	171	N/A	N/A	N/A	N/A	N/A
Antique	21	54	77	115	96	55	54	54	86	79
Motorcycle/Moped	11680	11751	11122	10411	9932	9542	8290	8239	7929	6571
Truck	127958	126522	127981	128858	131926	125232	120856	119984	122725	124233
Farm Truck	65002	64002	64662	63671	63367	65526	56924	53480	51805	50848
Snow Vehicle	134	135	133	76	76	77	70	75	66	67
Trailer	88029	89131	90377	90817	94005	107375	79574	75638	74936	77804
Tractor (non-farm)	217	219	208	190	194	197	217	198	149	154
Subtotal	833270	833126	843123	844315	855508	844569	809234	777590	774264	780565
Less Cancellations	102480	101904	104697	108507	107058	88283	124306	121277	112947	109065
Total	730790	731222	738426	735808	748450	756286	684928	656313	661317	671500
Commercial Vehicle Class										
Commercial Truck	25845	25809	27380	27857	28904	26424	23648	24188	25035	25251
PSV – Truck	5017	4580	4897	5079	5253	5091	4984	5700	6062	6403
U-Drive Car/Truck[2]	2446	2533	2267	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dealer/Repairer [4]	4850	4878	4856	5112	5853	6141	7026	7128	6999[4]	7425
Taxi/Livery	832	868	841	852	840	866	963	1058	888	901
PSV-Bus	166	174	159	164	161	148	153	146	143	196
Trailers[3]	21225	23607	25978	19207	24936	26920	30009	32263	25637	29793
PSV-Trailers	17	14	14	11	20	18	18	17	20	34
Subtotal	60398	62463	66392	58282	65967	65608	66801	70500	64784	70003
Less Cancellations	5081	4405	4108	3498	3723	5189	6141	6572	6167	7505
Total	55317	58058	62284	54784	62244	60419	60660	63928	58617	62498
Total Registrations	786107	789280	800710	790592	810694	816705	745588	720241	719934	733998
Off-Road Vehicles										
Registrations	35664	21135	29978	35890	36706	23865	21884	21061	19957	19863
Less Cancellations	486	393	1182	467	2	1146	1464	949	614	722
Total	35178	20742	28796	35423	36704	22719	20420	20112	19343	19141

1. After 1995 delivery car included in regular passenger classification.
2. U-drive car and trucks combined with regular vehicle classes March 1993.
3. Commercial trailers including semi-trailers.
4. Corrected dealer/repairer total for 1998.

Section 4

Traffic Collisions

Ten Year Summary
1990 – 1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total Collisions	36211	38545	30383	29435	29744	32398	29089	27133	27124	28667
Fatal	104	107	106	106	98	108	79	101	109	99
Injury	9504	10689	11245	10906	9706	8783	7509	6698	6879	6959
P. Damage	26603	27749	19032	18423	19940	23507	21501	20334	20136	21609
Total Victims	13571	15369	16222	15751	13951	12266	10560	9267	9652	9810
Killed	121	119	118	134	119	128	93	119	121	113
Injured	13450	15250	16104	15617	13832	12138	10467	9148	9531	9697
Total Vehicles Involved	62737	66565	52741	51362	51099	55392	49712	45959	46005	48457
Fatal	162	153	164	161	161	188	115	147	170	157
Injury	17571	19992	21081	20573	18140	16120	13428	11955	12371	12543
P. Damage	45004	46420	31496	30628	32798	39084	36169	33857	33464	35757
Total Drivers Involved	56794	59965	48343	47260	46651	50319	46020	42324	42578	44862
Fatal	153	145	152	150	152	171	110	142	164	151
Injury	16820	19186	20344	19852	17421	15530	12891	11487	11908	12096
P. Damage	39821	40634	27847	27258	29078	34618	33019	30695	30506	32615

In 1999 there were 28,667 reportable traffic accidents . However, the number of fatal collisions decreased by 9.2% from 109 in 1998 to 99 in 1999. Injury collisions increased by 1.2% from 6,879 in 1998 to 6,959 in 1999. Property damage collisions increased by 7.3% from 20,136 in 1998 to 21,609 in 1999.

The overall number of collision victims increased by 1.6% from 9,652 in 1998 to 9,810 in 1999. The number of victims killed decreased by 6.6% from 121 in 1998 to 113 in 1999. The number of victims injured increased by 1.7% from 9,531 in 1998 to 9,697 in 1999.

There were a total of 48,457 vehicles involved in traffic collisions in 1999, 5.3% more than the 46,005 recorded in 1998. The number of vehicles involved in fatal traffic accidents decreased by 7.6% from 170 in 1998 to 157 in 1999. The number of vehicles involved in injury collisions increased by 1.4% from 12,371 in 1998 to 12,543 in 1999. Property damage vehicle involvement increased by 6.8% from 33,464 in 1998 to 35,757 in 1999.

The overall number of drivers involved in traffic collisions in 1999 increased by 5.4% from 42,578 in 1998 to 44,862 in 1999. The number of drivers involved in fatal collisions decreased by 7.9% from 164 in 1998 to 151 in 1999. Drivers involved in injury collisions increased by 1.6% from 11,908 in 1998 to 12,096 in 1999. Drivers involved in property damage collisions rose from 30,506 in 1998 to 32,615 in 1999, a 6.9% increase.

Ten Year Summary
1990 – 1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total Collisions	36211	38545	30383	29435	29744	32398	29089	27133	27124	28667
Fatal	104	107	106	106	98	108	79	101	109	99
Injury	9504	10689	11245	10906	9706	8783	7509	6698	6879	6959
P. Damage	26603	27749	19032	18423	19940	23507	21501	20334	20136	21609
Total Victims	13571	15369	16222	15751	13951	12266	10560	9267	9652	9810
Killed	121	119	118	134	119	128	93	119	121	113
Injured	13450	15250	16104	15617	13832	12138	10467	9148	9531	9697
Total Vehicles Involved	62737	66565	52741	51362	51099	55392	49712	45959	46005	48457
Fatal	162	153	164	161	161	188	115	147	170	157
Injury	17571	19992	21081	20573	18140	16120	13428	11955	12371	12543
P. Damage	45004	46420	31496	30628	32798	39084	36169	33857	33464	35757
Total Drivers Involved	56794	59965	48343	47260	46651	50319	46020	42324	42578	44862
Fatal	153	145	152	150	152	171	110	142	164	151
Injury	16820	19186	20344	19852	17421	15530	12891	11487	11908	12096
P. Damage	39821	40634	27847	27258	29078	34618	33019	30695	30506	32615

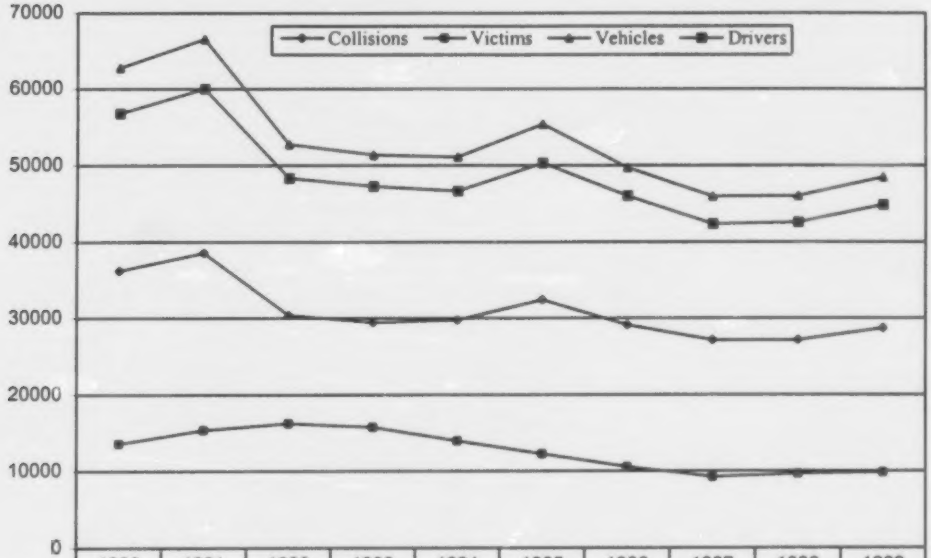
In 1999 there were 28,667 reportable traffic accidents . However, the number of fatal collisions decreased by 9.2% from 109 in 1998 to 99 in 1999. Injury collisions increased by 1.2% from 6,879 in 1998 to 6,959 in 1999. Property damage collisions increased by 7.3% from 20,136 in 1998 to 21,609 in 1999.

The overall number of collision victims increased by 1.6% from 9,652 in 1998 to 9,810 in 1999. The number of victims killed decreased by 6.6% from 121 in 1998 to 113 in 1999. The number of victims injured increased by 1.7% from 9,531 in 1998 to 9,697 in 1999.

There were a total of 48,457 vehicles involved in traffic collisions in 1999, 5.3% more than the 46,005 recorded in 1998. The number of vehicles involved in fatal traffic accidents decreased by 7.6% from 170 in 1998 to 157 in 1999. The number of vehicles involved in injury collisions increased by 1.4% from 12,371 in 1998 to 12,543 in 1999. Property damage vehicle involvement increased by 6.8% from 33,464 in 1998 to 35,757 in 1999.

The overall number of drivers involved in traffic collisions in 1999 increased by 5.4% from 42,578 in 1998 to 44,862 in 1999. The number of drivers involved in fatal collisions decreased by 7.9% from 164 in 1998 to 151 in 1999. Drivers involved in injury collisions increased by 1.6% from 11,908 in 1998 to 12,096 in 1999. Drivers involved in property damage collisions rose from 30,506 in 1998 to 32,615 in 1999, a 6.9% increase.

Ten Year Summary
1990 – 1999



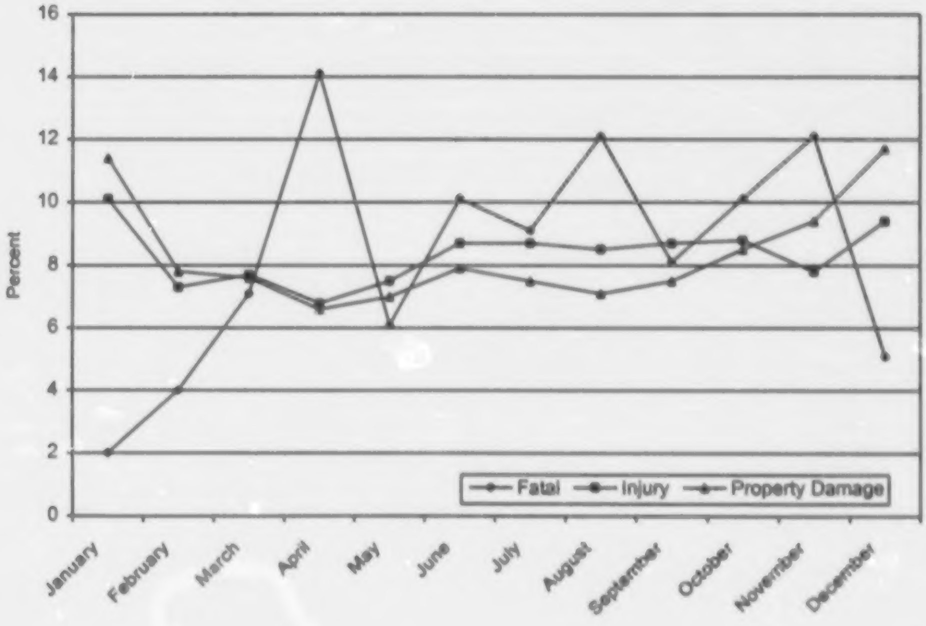
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Collisions	36211	38545	30383	29435	29744	32398	29089	27133	27124	28667
Victims	13571	15369	16222	15751	13951	12266	10560	9267	9652	9810
Vehicles	62737	66565	52741	51362	51099	55392	49712	45959	46005	48457
Drivers	56794	59965	48343	47260	46651	50319	46020	42324	42578	44862

By Month of Occurrence and Collision Type
1999

Month	Collision Type			Total	%
	Fatal	Injury	P. Damage		
January	2	701	2455	3158	11.0
February	4	505	1687	2196	7.7
March	7	538	1641	2186	7.6
April	14	474	1435	1923	6.7
May	6	521	1508	2035	7.1
June	10	604	1699	2313	8.1
July	9	603	1617	2229	7.8
August	12	592	1545	2149	7.5
September	8	605	1619	2232	7.8
October	10	614	1840	2464	8.6
November	12	544	2041	2597	9.0
December	5	658	2522	3185	11.1
Total	99	6959	21609	28667	100.0

January, November, and December accounted for 31.1% of the total collisions occurring in 1999. April (14) had the highest number of fatal collisions followed by August (12) and November (12). January (701) had the highest number of injury collisions followed by December (658). December (2522) had the highest number of property damage collisions followed by January (2455).

Comparison of Fatal, Injury, and Property Damage Collisions by Month of Occurrence
1999

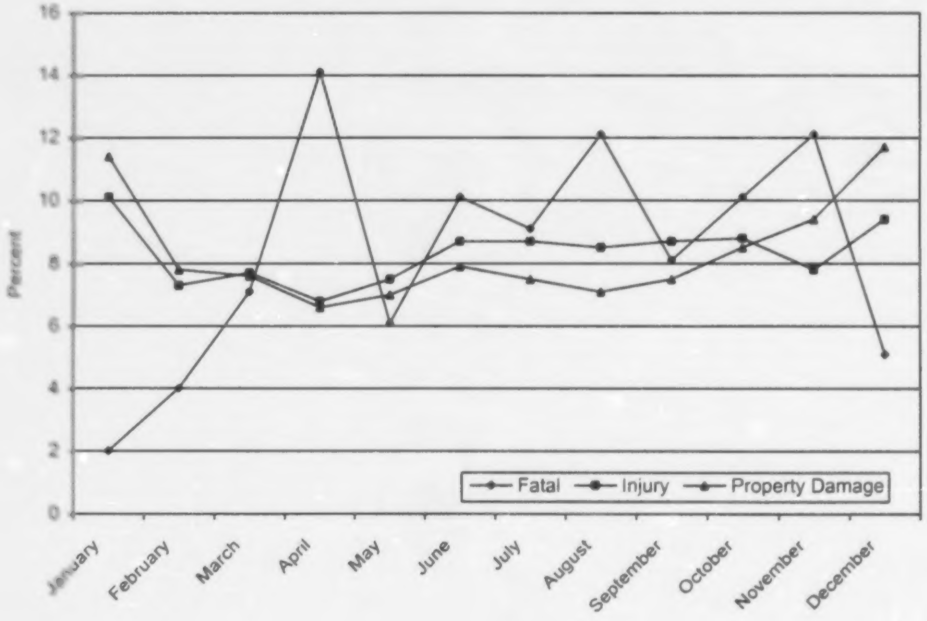


By Month of Occurrence and Collision Type
1999

Month	Collision Type			Total	%
	Fatal	Injury	P. Damage		
January	2	701	2455	3158	11.0
February	4	505	1687	2196	7.7
March	7	538	1641	2186	7.6
April	14	474	1435	1923	6.7
May	6	521	1508	2035	7.1
June	10	604	1699	2313	8.1
July	9	603	1617	2229	7.8
August	12	592	1545	2149	7.5
September	8	605	1619	2232	7.8
October	10	614	1840	2464	8.6
November	12	544	2041	2597	9.0
December	5	658	2522	3185	11.1
Total	99	6959	21609	28667	100.0

January, November, and December accounted for 31.1% of the total collisions occurring in 1999. April (14) had the highest number of fatal collisions followed by August (12) and November (12). January (701) had the highest number of injury collisions followed by December (658). December (2522) had the highest number of property damage collisions followed by January (2455).

Comparison of Fatal, Injury, and Property Damage Collisions
by Month of Occurrence
1999

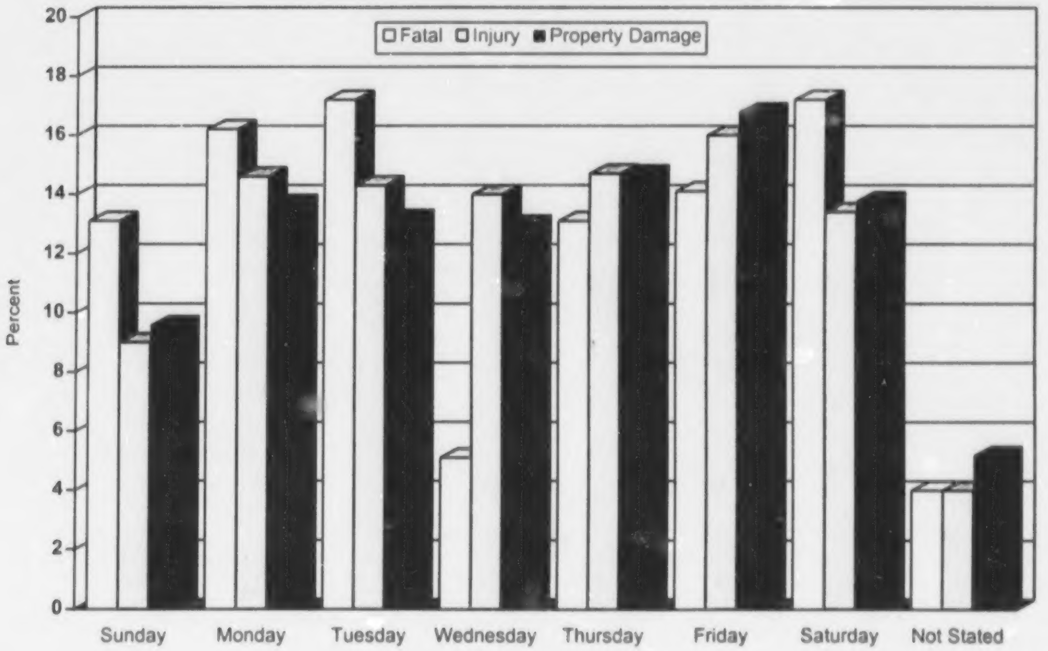


By Day of Occurrence and Collision Type
1999

Day	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Sunday	13	629	2066	2708	9.5
Monday	16	1012	2968	3996	13.9
Tuesday	17	995	2845	3857	13.5
Wednesday	5	972	2804	3781	13.2
Thursday	13	1022	3186	4221	14.7
Friday	14	1111	3631	4756	16.6
Saturday	17	936	2983	3936	13.7
Not Stated	4	282	1126	1412	4.9
Total	99	6959	21609	28667	100.0

Overall, more accidents occurred on Friday (16.6%) than on any other day of the week. Collisions that resulted in deaths occurred more frequently on Tuesdays and Saturdays (34.3%), while fewest fatal collisions took place on Wednesdays, at 5.1%. Injury collisions happened most often on Fridays and Thursdays (16.0% and 14.7%), while these crashes occurred least often on Sundays, at 9.0%.

Comparison of Fatal, Injury, and Property Damage Collisions by Day of Occurrence
1999

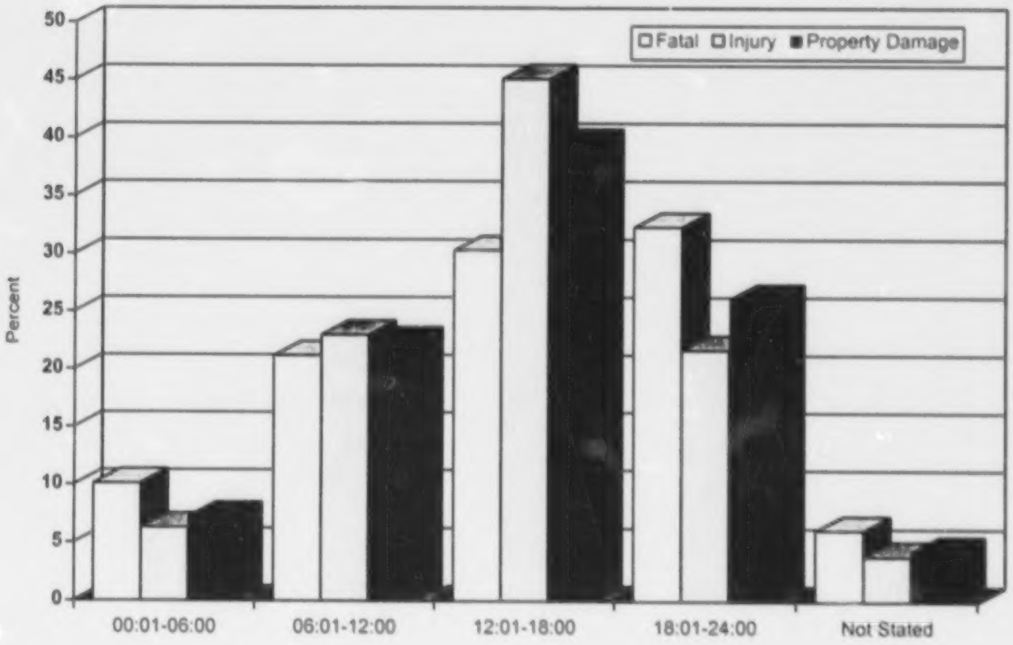


By Time of Occurrence and Collision Type
1999

Time	Collision Type			Total	%
	Fatal	Injury	P. Damage		
00:01 - 06:00	10	440	1572	2022	7.0
06:01 -12:00	21	1602	4852	6475	22.6
12:01 - 18:00	30	3134	8561	11725	40.9
18:01 - 24:00	32	1512	5668	7212	25.2
Not Stated	6	271	956	1233	4.3
Total	99	6959	21609	28667	100.0

Overall, the highest incidence of traffic collisions (40.9%) occurred within the time period 12:01 - 18:00 hours. Collisions occurred approximately one and half times more often in this time frame than in the 18:01 – 24:00 time period and nearly 1.9 times more than in the 06:01 – 12:00 time period. However, the frequency of fatal collisions was very close for both the 12:01 – 18:00 and 18:01 - 24:00 time periods. Collisions that resulted in fatalities occurred least frequently during the period from 00:01 to 06:00. Almost half (45.0%) of all injury-producing collisions took place between 12:01 p.m. and 18:00.

Comparison of Total Traffic Collisions by Time of Occurrence and Collision Type
1999

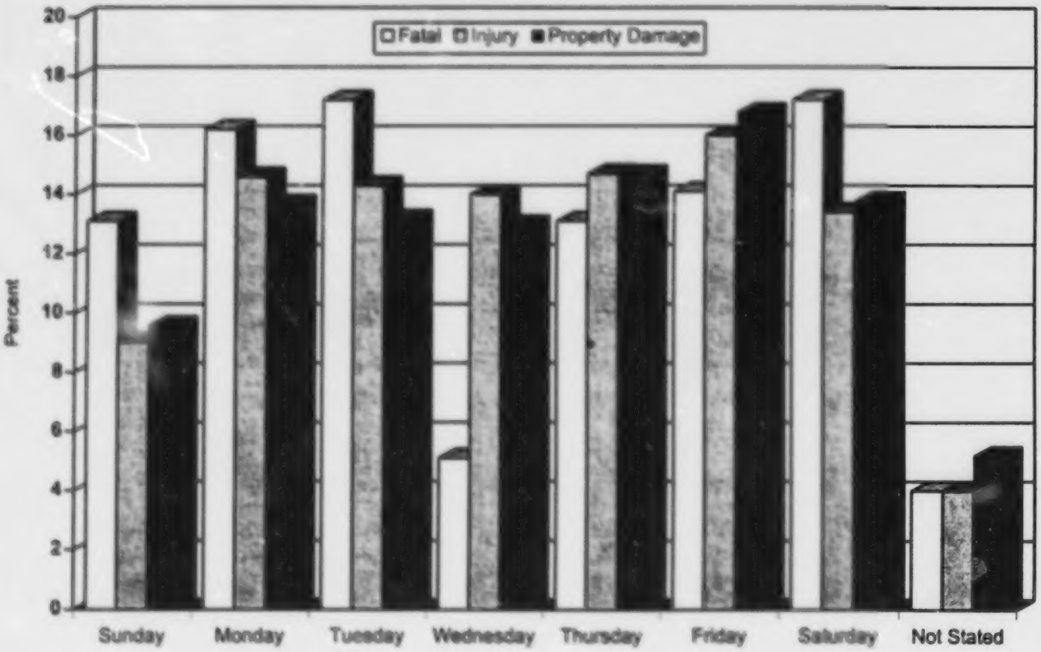


By Day of Occurrence and Collision Type
1999

Day	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Sunday	13	629	2066	2708	9.5
Monday	16	1012	2968	3996	13.9
Tuesday	17	995	2845	3857	13.5
Wednesday	5	972	2804	3781	13.2
Thursday	13	1022	3186	4221	14.7
Friday	14	1111	3631	4756	16.6
Saturday	17	936	2983	3936	13.7
Not Stated	4	282	1126	1412	4.9
Total	99	6959	21609	28667	100.0

Overall, more accidents occurred on Friday (16.6%) than on any other day of the week. Collisions that resulted in deaths occurred more frequently on Tuesdays and Saturdays (34.3%), while fewest fatal collisions took place on Wednesdays, at 5.1%. Injury collisions happened most often on Fridays and Thursdays (16.0% and 14.7%), while these crashes occurred least often on Sundays, at 9.0%.

Comparison of Fatal, Injury, and Property Damage Collisions by Day of Occurrence
1999

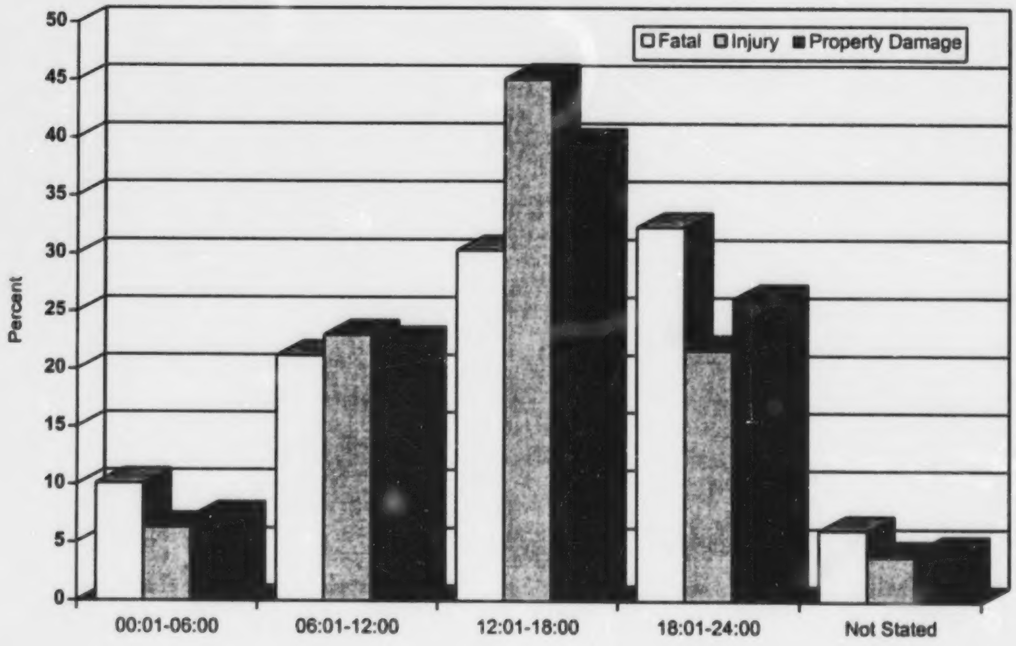


By Time of Occurrence and Collision Type
1999

Time	Collision Type			Total	%
	Fatal	Injury	P. Damage		
00:01 - 06:00	10	440	1572	2022	7.0
06:01 -12:00	21	1602	4852	6475	22.6
12:01 - 18:00	30	3134	8561	11725	40.9
18:01 - 24:00	32	1512	5668	7212	25.2
Not Stated	6	271	956	1233	4.3
Total	99	6959	21609	28667	100.0

Overall, the highest incidence of traffic collisions (40.9%) occurred within the time period 12:01 - 18:00 hours. Collisions occurred approximately one and half times more often in this time frame than in the 18:01 – 24:00 time period and nearly 1.9 times more than in the 06:01 – 12:00 time period. However, the frequency of fatal collisions was very close for both the 12:01 – 18:00 and 18:01 - 24:00 time periods. Collisions that resulted in fatalities occurred least frequently during the period from 00:01 to 06:00. Almost half (45.0%) of all injury-producing collisions took place between 12:01 p.m. and 18:00.

Comparison of Total Traffic Collisions by Time of Occurrence and Collision Type
1999



By Collision Type and Urban/Rural Location
1999

Collision Type	Location												
	Urban				Rural				Provincial Total				%
	Fatal	Injury	P. Damage	Total	Fatal	Injury	P. Damage	Total	Fatal	Injury	P. Damage	Total	
Pedestrian	12	464	8	484	7	17	0	24	19	481	8	508	1.8
Motor Vehicle	11	4404	14518	18933	30	446	933	1409	41	4850	15451	20342	71.0
Train	1	5	3	9	0	4	5	9	1	9	8	18	0.1
Motorcycle	2	61	29	92	1	11	3	15	3	72	32	107	0.4
Bicycle	0	252	22	274	1	15	0	16	1	267	22	290	1.0
Animal	0	11	159	170	0	141	2598	2739	0	152	2757	2909	10.0
Fixed Object	2	240	1518	1760	3	63	244	310	5	303	1762	2070	7.2
Other Object	0	10	56	66	3	15	57	75	3	25	113	141	0.5
Overturned	0	6	15	21	4	63	76	143	4	69	91	164	0.6
Ran Off Roadway	0	71	172	243	22	641	1012	1675	22	712	1184	1918	6.7
Other Non Collision	0	13	37	50	0	6	144	150	0	19	181	200	0.7
Total	28	5537	16537	22102	71	1422	5072	6565	99	6959	21609	28667	100.0

In urban areas, the primary collision type was "motor vehicle to motor vehicle" which accounted for 85.7% of the total reportable collisions while in rural areas the primary collision type was "motor vehicle to animal" at 41.7 percent.

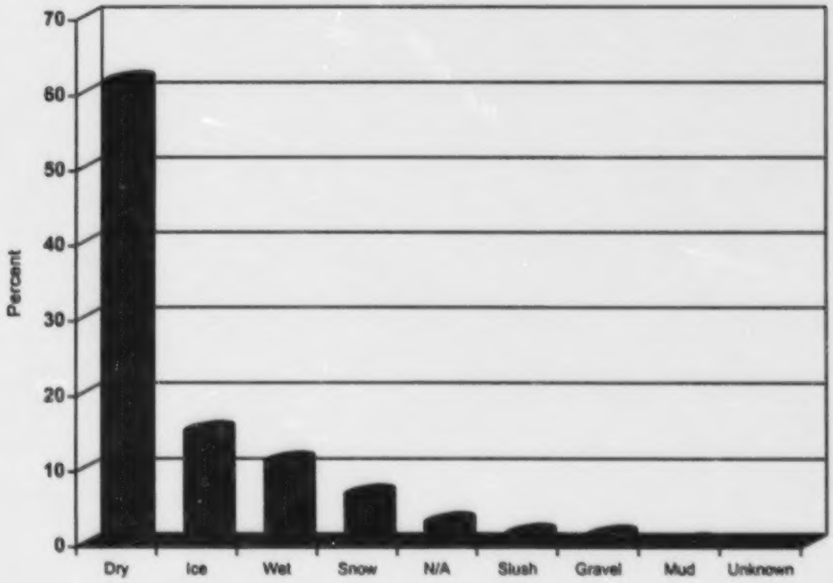
Fatal collisions occurred two and a half times as often on rural roadways than in urban areas. In urban areas, "pedestrian" and "motor vehicle" were the primary fatal collision types, whereas in rural areas, "motor vehicle", "ran off roadway" and pedestrian" were the most frequently identified fatal collision types.

By Road Surface Condition and Collision Type
1999

Road Surface Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Dry	66	4444	13135	17645	61.6
Wet	13	888	2265	3166	11.0
Mud	0	15	50	65	0.2
Snow	0	347	1534	1881	6.6
Ice	7	898	3391	4296	15.0
Slush	4	106	290	400	1.4
Loose Sand/Gravel/Dirt	7	119	221	347	1.2
Fresh Oil	0	1	4	5	-.-
Not Applicable	2	139	682	823	2.9
Other	0	0	3	3	-.-
Unknown	0	2	34	36	0.1
Total	99	6959	21609	28667	100.0

Of the total traffic collisions, 61.6% occurred under "dry" road surface conditions. Ice, wet and snow-covered road surfaces accounted for 20.2% of fatal collisions, 30.7% of injury collisions, and 33.3% of property damage collisions.

Distribution of Total Collisions
by Road Surface Condition
1999



By Collision Type and Urban/Rural Location
1999

Collision Type	Location												
	Urban				Rural				Provincial Total				%
	Fatal	Injury	P. Damage	Total	Fatal	Injury	P. Damage	Total	Fatal	Injury	P. Damage	Total	
Pedestrian	12	464	8	484	7	17	0	24	19	481	8	508	1.8
Motor Vehicle	11	4404	14518	18933	30	446	933	1409	41	4850	15451	20342	71.0
Train	1	5	3	9	0	4	5	9	1	9	8	18	0.1
Motorcycle	2	61	29	92	1	11	3	15	3	72	32	107	0.4
Bicycle	0	252	22	274	1	15	0	16	1	267	22	290	1.0
Animal	0	11	159	170	0	141	2598	2739	0	152	2757	2909	10.0
Fixed Object	2	240	1518	1760	3	63	244	310	5	303	1762	2070	7.2
Other Object	0	10	56	66	3	15	57	75	3	25	113	141	0.5
Overturned	0	6	15	21	4	63	76	143	4	69	91	164	0.6
Ran Off Roadway	0	71	172	243	22	641	1012	1675	22	712	1184	1918	6.7
Other Non Collision	0	13	37	50	0	6	144	150	0	19	181	200	0.7
Total	28	5537	16537	22102	71	1422	5072	6565	99	6959	21609	28667	100.0

In urban areas, the primary collision type was “motor vehicle to motor vehicle” which accounted for 85.7% of the total reportable collisions while in rural areas the primary collision type was "motor vehicle to animal" at 41.7 percent.

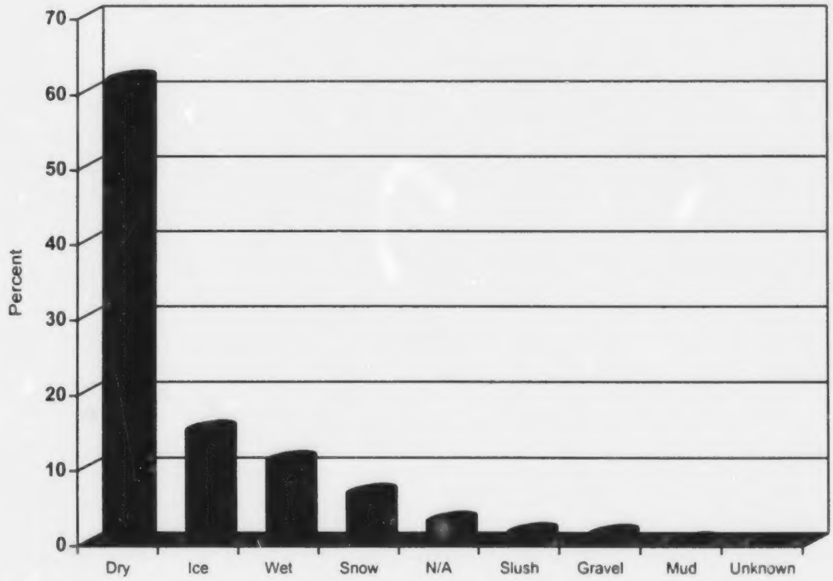
Fatal collisions occurred two and a half times as often on rural roadways than in urban areas. In urban areas, “pedestrian” and “motor vehicle” were the primary fatal collision types, whereas in rural areas, “motor vehicle”, “ran off roadway” and pedestrian” were the most frequently identified fatal collision types.

By Road Surface Condition and Collision Type
1999

Road Surface Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Dry	66	4444	13135	17645	61.6
Wet	13	888	2265	3166	11.0
Mud	0	15	50	65	0.2
Snow	0	347	1534	1881	6.6
Ice	7	898	3391	4296	15.0
Slush	4	106	290	400	1.4
Loose Sand/Gravel/Dirt	7	119	221	347	1.2
Fresh Oil	0	1	4	5	-.-
Not Applicable	2	139	682	823	2.9
Other	0	0	3	3	-.-
Unknown	0	2	34	36	0.1
Total	99	6959	21609	28667	100.0

Of the total traffic collisions, 61.6% occurred under "dry" road surface conditions. Ice, wet and snow-covered road surfaces accounted for 20.2% of fatal collisions, 30.7% of injury collisions, and 33.3% of property damage collisions.

Distribution of Total Collisions
by Road Surface Condition
1999

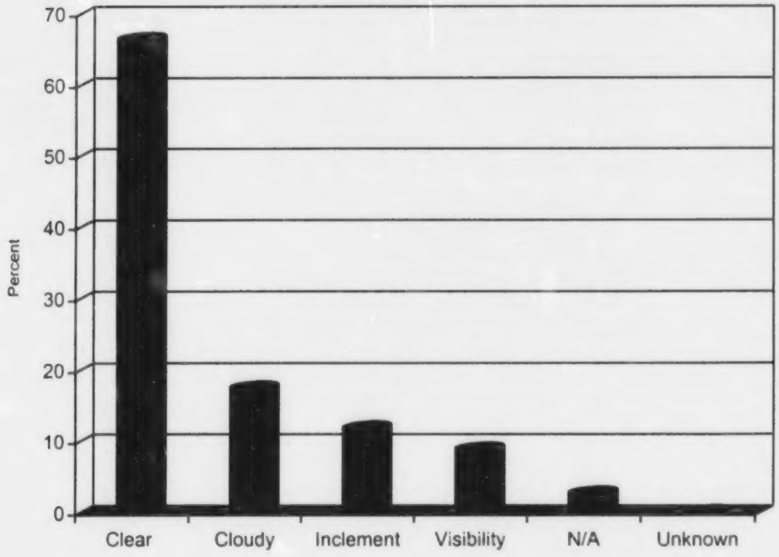


By Weather Condition and Collision Type
1999

Weather Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Clear	62	4528	14463	19053	66.5
Cloudy	25	1346	3661	5032	17.6
Raining	6	479	1210	1695	5.9
Snowing	1	279	1040	1320	4.6
Fog or Mist	2	55	178	235	0.8
Smoke or Dust	1	11	15	27	0.1
Freezing Rain/Sleet/Hail	1	52	150	203	0.7
Drifting Snow	0	35	91	126	0.4
Strong Winds	0	25	80	105	0.4
Not Applicable	1	143	664	808	2.8
Unknown	0	6	56	62	0.2
Other	0	0	1	1	-.-
Total	99	6959	21609	28667	100.0

"Clear" weather conditions accounted for 66.5% of total traffic collisions and 62.6% of fatal traffic collisions. "Cloudy", "raining", and "snowing" accounted for 32.3% of fatal collisions, 30.2% of injury collisions, and 27.4% of property damage collisions.

Distribution of Total Collisions by Weather Condition
1999



Inclement weather includes raining, snowing, freezing rain/sleet/hail, drifting snow and strong winds. Visibility weather conditions include fog/mist and smoke/dust.

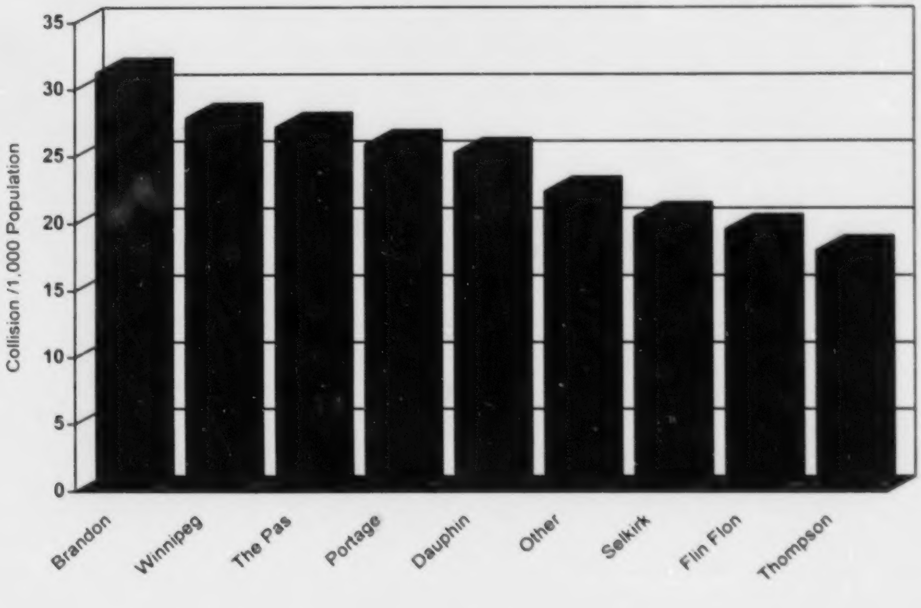
By Provincial Location and Collision Type
1999

Location	Collision Type			Total	%	Collisions /1,000 Population[1]
	Fatal	Injury	P. Damage			
Winnipeg	22	4757	12457	17236	60.1	27.9
Brandon	1	237	988	1226	4.3	31.3
Portage la Prairie	0	62	277	339	1.2	25.9
Flin Flon	0	15	114	129	0.4	19.6
Dauphin	0	35	174	209	0.7	25.3
Thompson	1	19	239	259	0.9	18.0
The Pas	0	17	145	162	0.6	27.2
Selkirk	0	30	173	203	0.7	20.5
Other - Urban	4	365	1970	2339	8.2	22.4
Other - Rural	71	1422	5072	6565	22.9	
Total	99	6959	21609	28667	100.0	25.7

1. Based on 1996 rounded-up census statistics from Statistics Canada.

Of the total traffic collisions, 60.1% occurred within the City of Winnipeg, while 22.9% of the total collisions occurred in rural areas. However, rural roadway collisions accounted for 71.7% of total fatal collisions.

Distribution of Total Collisions by Provincial Location /1,000 Population
1999

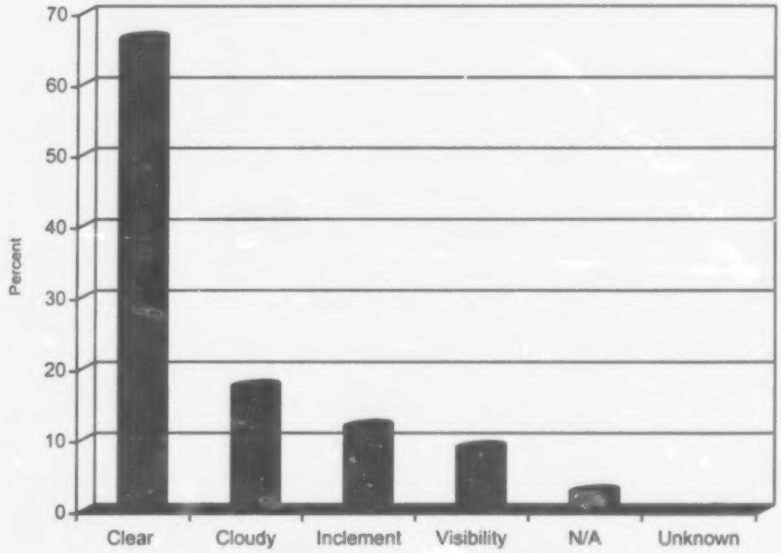


By Weather Condition and Collision Type
1999

Weather Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Clear	62	4528	14463	19053	66.5
Cloudy	25	1346	3661	5032	17.6
Raining	6	479	1210	1695	5.9
Snowing	1	279	1040	1320	4.6
Fog or Mist	2	55	178	235	0.8
Smoke or Dust	1	11	15	27	0.1
Freezing Rain/Sleet/Hail	1	52	150	203	0.7
Drifting Snow	0	35	91	126	0.4
Strong Winds	0	25	80	105	0.4
Not Applicable	1	143	664	808	2.8
Unknown	0	6	56	62	0.2
Other	0	0	1	1	-.-
Total	99	6959	21609	28667	100.0

"Clear" weather conditions accounted for 66.5% of total traffic collisions and 62.6% of fatal traffic collisions. "Cloudy", "raining", and "snowing" accounted for 32.3% of fatal collisions, 30.2% of injury collisions, and 27.4% of property damage collisions.

Distribution of Total Collisions by Weather Condition
1999



Inclement weather includes raining, snowing, freezing rain/sleet/hail, drifting snow and strong winds. Visibility weather conditions include fog/mist and smoke/dust.

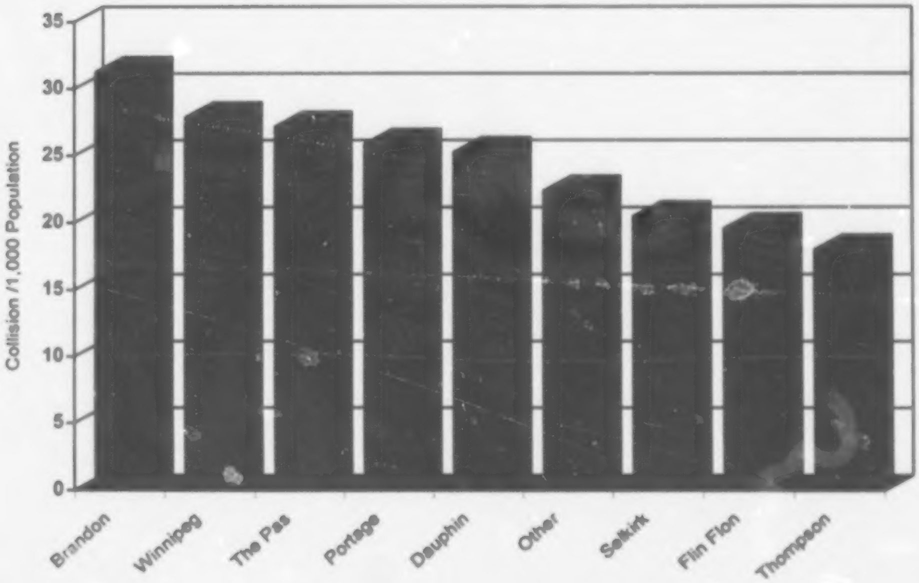
By Provincial Location and Collision Type
1999

Location	Collision Type			Total	%	Collisions /1,000 Population[1]
	Fatal	Injury	P. Damage			
Winnipeg	22	4757	12457	17236	60.1	27.9
Brandon	1	237	988	1226	4.3	31.3
Portage la Prairie	0	62	277	339	1.2	25.9
Flin Flon	0	15	114	129	0.4	19.6
Dauphin	0	35	174	209	0.7	25.3
Thompson	1	19	239	259	0.9	18.0
The Pas	0	17	145	162	0.6	27.2
Selkirk	0	30	173	203	0.7	20.5
Other - Urban	4	365	1970	2339	8.2	22.4
Other - Rural	71	1422	5072	6565	22.9	
Total	99	6959	21609	28667	100.0	25.7

1. Based on 1996 rounded-up census statistics from Statistics Canada.

Of the total traffic collisions, 60.1% occurred within the City of Winnipeg, while 22.9% of the total collisions occurred in rural areas. However, rural roadway collisions accounted for 71.7% of total fatal collisions.

Distribution of Total Collisions by Provincial Location /1,000 Population
1999



By Accident Configuration and Collision Type
1999

Configuration	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Rear End	1	2277	4062	6340	22.1
Head On	8	89	213	310	1.1
Side Swipe	2	57	337	396	1.4
Side Swipe	0	164	1348	1512	5.3
Overtaking	0	83	442	525	1.8
Right Turn	0	32	94	126	0.4
Right Turn	0	28	96	124	0.4
Left Turn	1	83	191	275	1.0
Left Turn	0	39	186	225	0.8
Left Turn	4	384	843	1231	4.3
Intersection 90°	19	1302	2678	3999	13.9
Off-Road Right	15	390	738	1143	4.0
Off-Road Left	10	290	448	748	2.6
Fixed Object	1	198	1256	1455	5.1
Parking	0	31	1021	1052	3.7
Pedestrian	14	407	11	432	1.5
Other[1]	24	1105	7645	8774	30.6
Total	99	6959	21609	28667	100.0

[1] Accidents with two or more vehicles involved or more than one collision configuration.

"Rear-end", "90° intersection" and "side-swipe" configurations accounted for 42.7% of total traffic collisions. "Off-road", "90° intersection", and "pedestrian" configurations accounted for 58.6% of total fatal traffic collisions.

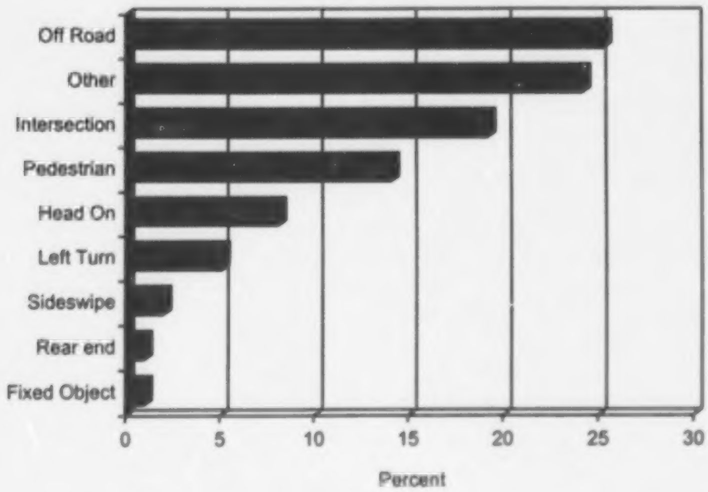
By Accident Configuration and Collision Type
1999

Configuration	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Rear End	1	2277	4062	6340	22.1
Head On	8	89	213	310	1.1
Side Swipe	2	57	337	396	1.4
Side Swipe	0	164	1348	1512	5.3
Overtaking	0	83	442	525	1.8
Right Turn	0	32	94	126	0.4
Right Turn	0	28	96	124	0.4
Left Turn	1	83	191	275	1.0
Left Turn	0	39	186	225	0.8
Left Turn	4	384	843	1231	4.3
Intersection 90°	19	1302	2678	3999	13.9
Off-Road Right	15	390	738	1143	4.0
Off-Road Left	10	290	448	748	2.6
Fixed Object	1	198	1256	1455	5.1
Parking	0	31	1021	1052	3.7
Pedestrian	14	407	11	432	1.5
Other[1]	24	1105	7645	8774	30.6
Total	99	6959	21609	28667	100.0

1. Accidents with two or more vehicles involved or more than one collision configuration.

"Rear-end", "90° intersection" and "side-swipe" configurations accounted for 42.7% of total traffic collisions. "Off-road", "90° intersection", and "pedestrian" configurations accounted for 58.6% of total fatal traffic collisions.

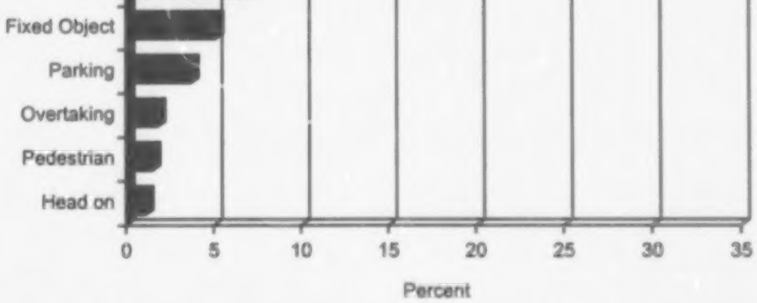
Distribution of Fatal Collisions by Accident Configuration 1999



"Other" category is not included as this configuration is usually describing collisions involving more than two vehicles or more than one collision configuration.

Forty-four percent of fatal collisions occurred in "off-road" and "Intersection 90^0" configurations. "Off-road" configurations are collisions where a single vehicle entered right ditch or a single vehicle crossed the road and entered the ditch.

Distribution of Injury and Property Damage Collisions by Accident Configuration 1999



"Rear-end" and "intersection" configurations account for 51.4% of injury collisions and 31.2% of property damage collisions.

Section 5

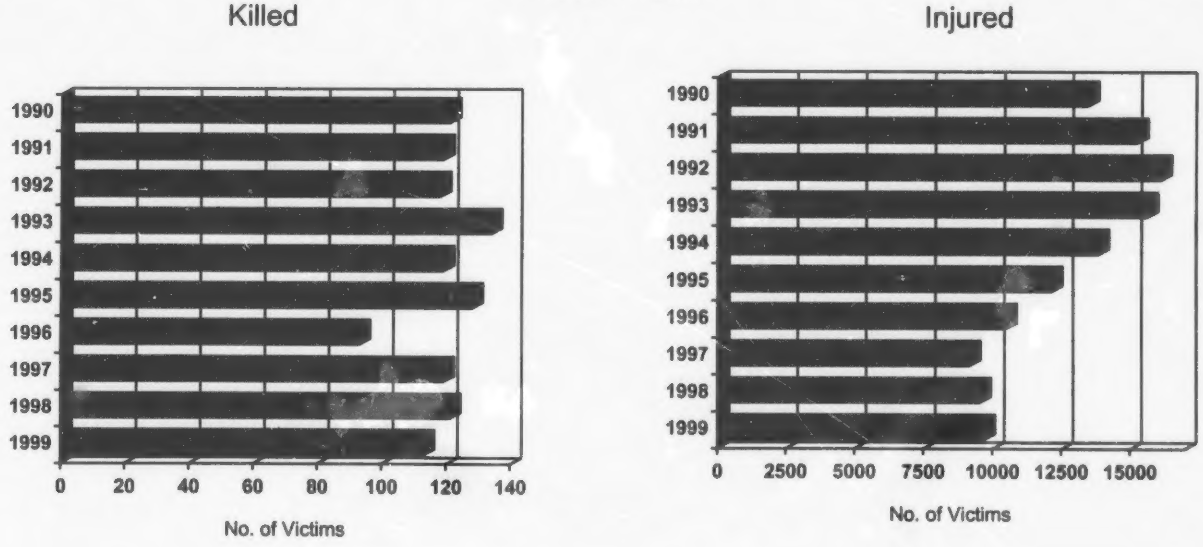
Collision Victims

Ten Year Summary
1990 – 1999

Year	Injury Type		Total
	Killed	Injured	
1990	121	13450	13571
1991	119	15250	15369
1992	118	16104	16222
1993	134	15617	15751
1994	119	13832	13951
1995	128	12138	12266
1996	93	10467	10560
1997	119	9148	9267
1998	121	9531	9652
1999	113	9697	9810

Although the total number of people killed and injured in traffic collisions increased by 1.6% between 1998 and 1999 (9652 to 9810), the latter total was 27.7% below the number reached in 1990 (13571). The number killed in 1999 (113) was the second lowest figure in the 10-year period under review, 6.6% below the 121 fatalities recorded in 1998 and 1990. Although the number of injured victims rose by 1.7% between 1998 and 1999 (9531 to 9697), it was 27.9% below the level of 13450 injured victims reached in 1990.

Comparison of Collision Victims
Ten Year Summary
1990 – 1999


Killed

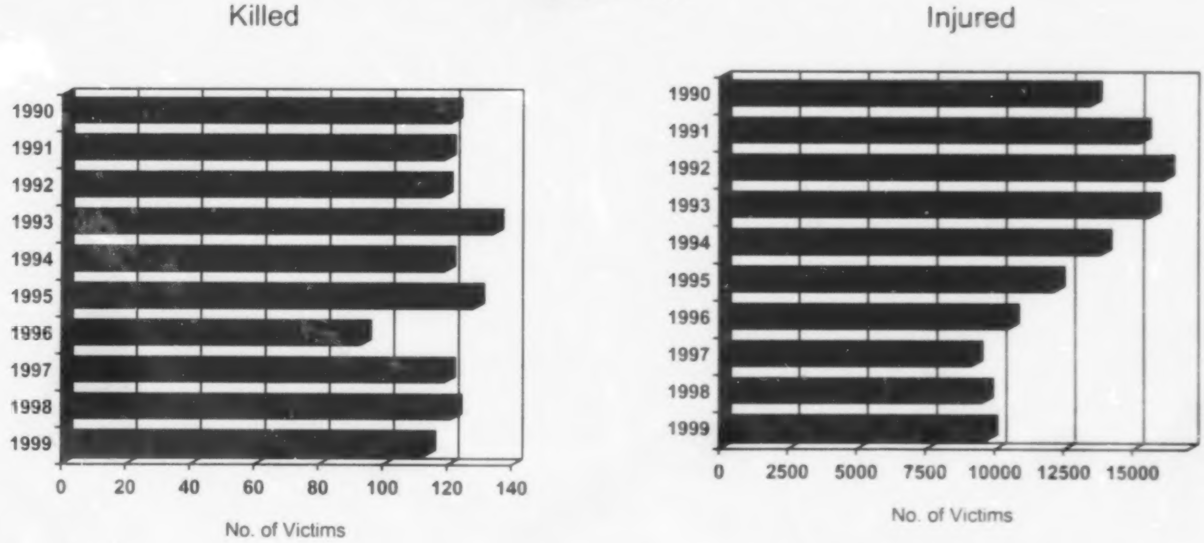
Injured

Ten Year Summary
1990 – 1999

Year	Injury Type		Total
	Killed	Injured	
1990	121	13450	13571
1991	119	15250	15369
1992	118	16104	16222
1993	134	15617	15751
1994	119	13832	13951
1995	128	12138	12266
1996	93	10467	10560
1997	119	9148	9267
1998	121	9531	9652
1999	113	9697	9810

Although the total number of people killed and injured in traffic collisions increased by 1.6% between 1998 and 1999 (9652 to 9810), the latter total was 27.7% below the number reached in 1990 (13571). The number killed in 1999 (113) was the second lowest figure in the 10-year period under review, 6.6% below the 121 fatalities recorded in 1998 and 1990. Although the number of injured victims rose by 1.7% between 1998 and 1999 (9531 to 9697), it was 27.9% below the level of 13450 injured victims reached in 1990.

Comparison of Collision Victims
Ten Year Summary
1990 – 1999

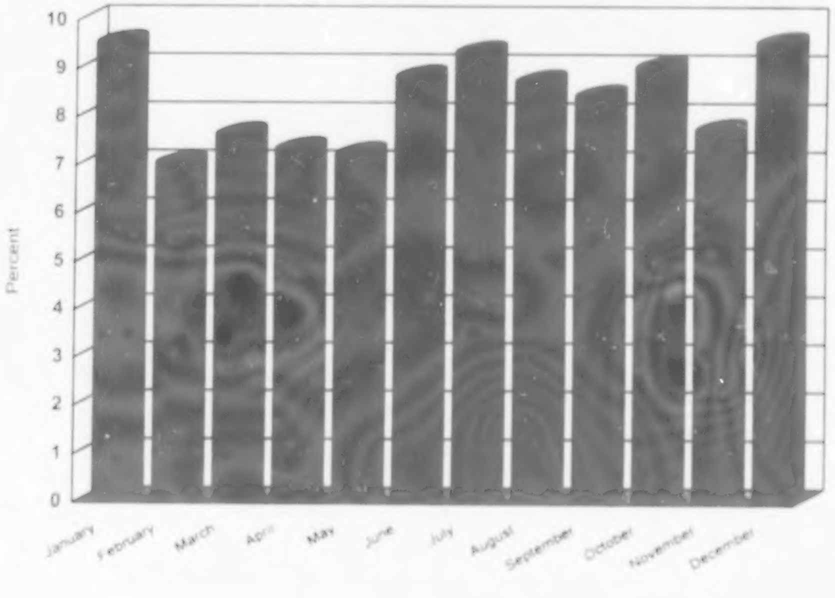


By Month of Occurrence and Injury Type
1999

Month	Injury Type		Total	%
	Killed	Injured		
January	2	934	936	9.5
February	5	678	683	7.0
March	8	733	741	7.6
April	15	698	713	7.3
May	6	702	708	7.2
June	11	853	864	8.8
July	11	900	911	9.3
August	14	843	857	8.7
September	13	812	825	8.4
October	10	876	886	9.0
November	12	746	758	7.7
December	6	922	928	9.5
Total	113	9697	9810	100.0

April (15) had the highest number of victims killed in traffic accidents followed by August (14) and September (13). January (934) had the highest number of victims injured, while February (678) had the fewest.

Distribution of Total Collision Victims
By Month of Occurrence
1999

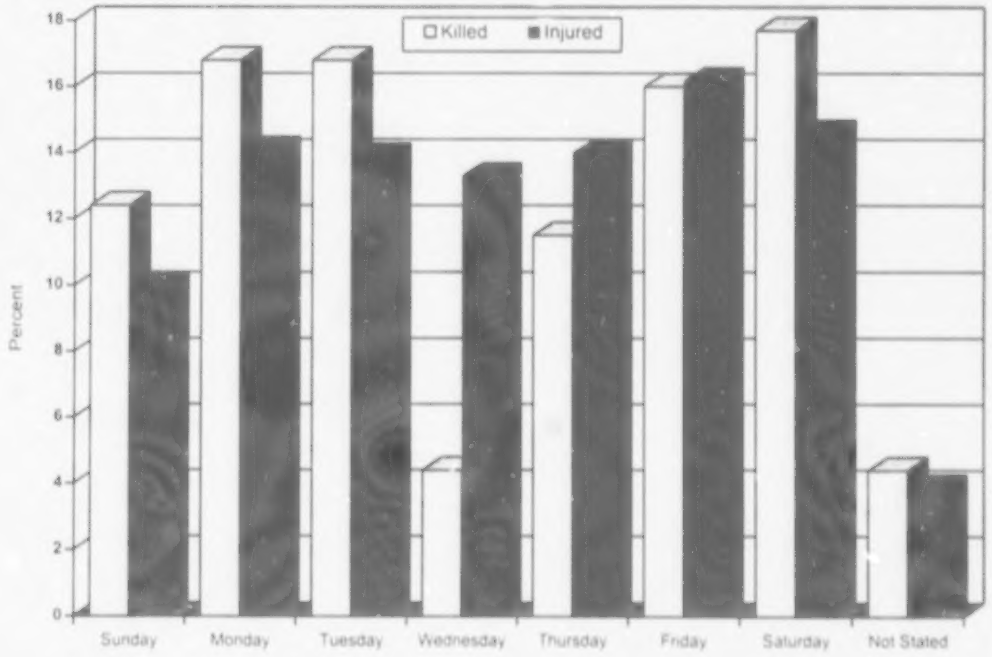


By Day of Occurrence and Injury Type
1999

Day	Injury Type		Total	%
	Killed	Injured		
Sunday	14	971	985	10.0
Monday	19	1369	1388	14.2
Tuesday	19	1350	1369	14.0
Wednesday	5	1290	1295	13.2
Thursday	13	1360	1373	14.0
Friday	18	1566	1584	16.1
Saturday	20	1418	1438	14.7
Not Stated	5	373	378	3.8
Total	113	9697	9810	100.0

Fatalities peaked on Saturday when 17.7% (20) were killed and were at their lowest on Wednesday, at 4.4 %. Injuries happened most often on Fridays and Saturdays (16.2% and 14.6% respectively), and least often on Sunday, at 10.0%.

Comparison of Collision Victims by Injury Type and Day of Occurrence
1999

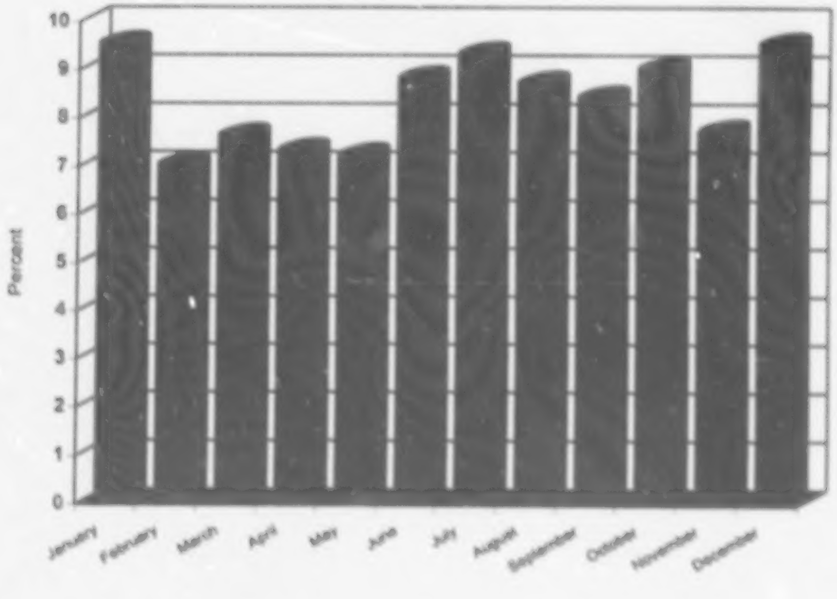


By Month of Occurrence and Injury Type
1999

Month	Injury Type		Total	%
	Killed	Injured		
January	2	934	936	9.5
February	5	678	683	7.0
March	8	733	741	7.6
April	15	698	713	7.3
May	6	702	708	7.2
June	11	853	864	8.8
July	11	900	911	9.3
August	14	843	857	8.7
September	13	812	825	8.4
October	10	876	886	9.0
November	12	746	758	7.7
December	6	922	928	9.5
Total	113	9697	9810	100.0

April (15) had the highest number of victims killed in traffic accidents followed by August (14) and September (13). January (934) had the highest number of victims injured, while February (678) had the fewest.

Distribution of Total Collision Victims
By Month of Occurrence
1999

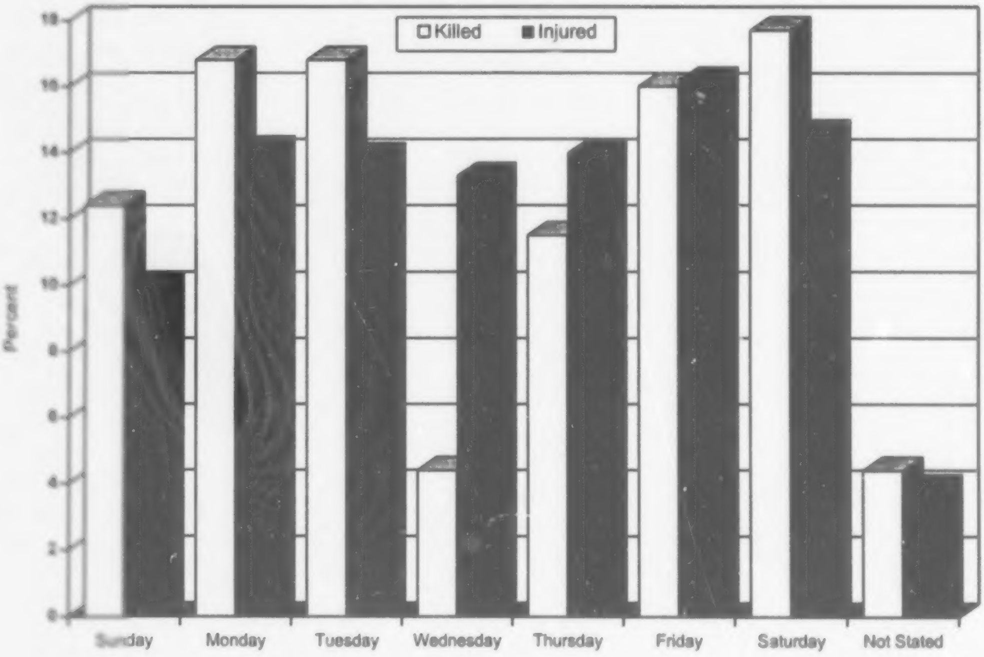


By Day of Occurrence and Injury Type
1999

Day	Injury Type		Total	%
	Killed	Injured		
Sunday	14	971	985	10.0
Monday	19	1369	1388	14.2
Tuesday	19	1350	1369	14.0
Wednesday	5	1290	1295	13.2
Thursday	13	1360	1373	14.0
Friday	18	1566	1584	16.1
Saturday	20	1418	1438	14.7
Not Stated	5	373	378	3.8
Total	113	9697	9810	100.0

Fatalities peaked on Saturday when 17.7% (20) were killed and were at their lowest on Wednesday, at 4.4 %. Injuries happened most often on Fridays and Saturdays (16.2% and 14.6% respectively), and least often on Sunday, at 10.0%.

Comparison of Collision Victims
by Injury Type and Day of Occurrence
1999

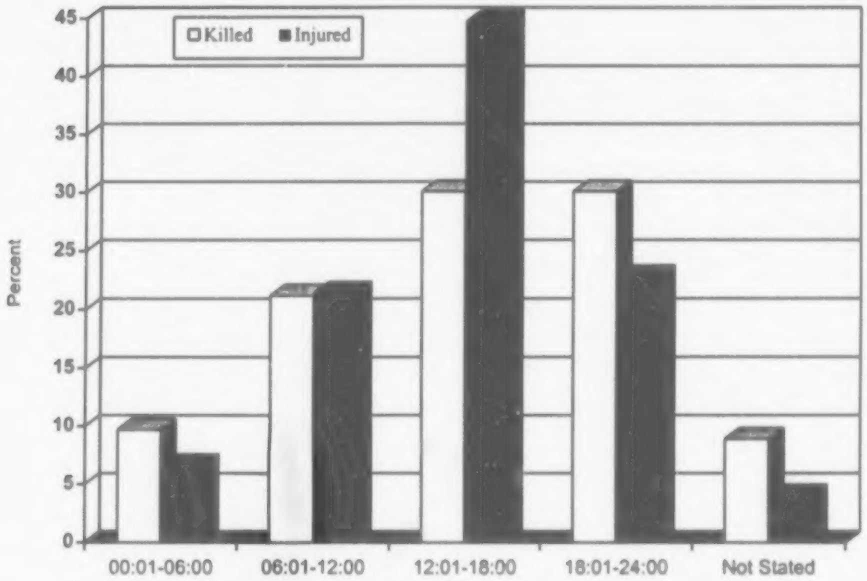


By Time of Occurrence and Injury Type
1999

Time	Injury Type		Total	%
	Killed	Injured		
00:01 - 06:00	11	654	665	6.8
06:01 - 12:00	24	2087	2111	21.5
12:01 - 18:00	34	4343	4377	44.6
18:01 - 24:00	34	2218	2252	23.0
Not Stated	10	395	405	4.1
Total	113	9697	9810	100.0

The highest incidence of casualties (44.6%) occurred with the time frame of 12:01 – 18:00 hours. The time periods 12:01 – 18:00 and 18:01 – 24:00 hours each accounted for 30.1% (34) of the collision victims killed.

Comparison of Collision Victims
by Injury Type and Time of Occurrence
1999

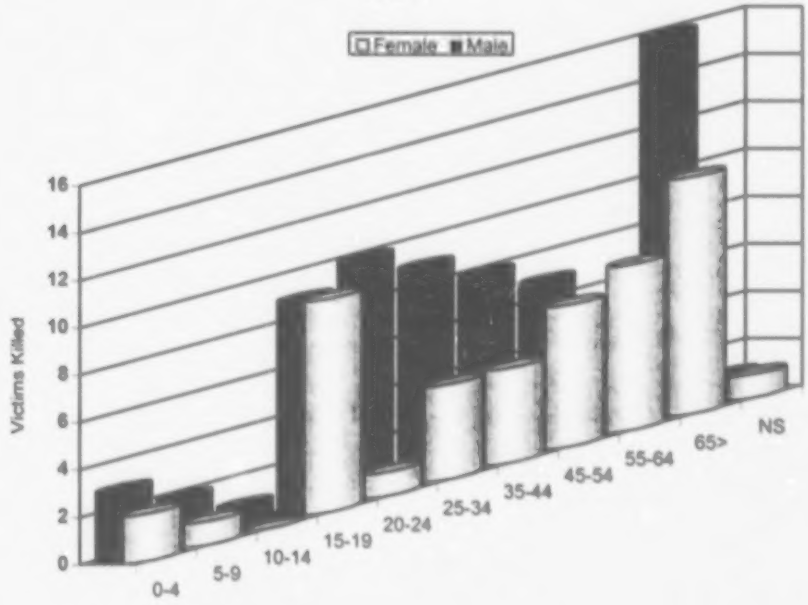


By Age Group, Injury Type, and Sex
1999

Age Group	Injury Type								Grand Total	Victims /1,000 Population[1]
	Killed				Injured					
	Male	Female	N.S.[2]	Total	Male	Female	N.S.[2]	Total		
0-4	3	2	0	5	61	57	0	118	123	1.5
5-9	2	1	0	3	136	104	0	240	243	2.9
10-14	1	0	0	1	143	176	0	319	320	3.9
15-19	9	9	0	18	557	699	0	1256	1274	16.4
20-24	10	1	0	11	487	549	0	1036	1047	13.8
25-34	9	4	0	13	699	837	0	1536	1549	9.4
35-44	8	4	0	12	674	799	0	1473	1485	8.5
45-54	7	6	0	13	476	656	0	1132	1145	8.6
55-64	2	7	0	9	258	348	0	606	615	6.8
65 >	16	10	0	26	281	344	0	625	651	4.3
N.S.[2]	1	1	0	2	662	693	1	1356	1358	-.-
Total	68	45	0	113	4434	5262	1	9697	9810	8.8

1. Based on 1996 rounded-up census statistics from Statistics Canada.
2. Not stated.

Comparison of Collision Victims Killed
by Age Group and Sex
1999



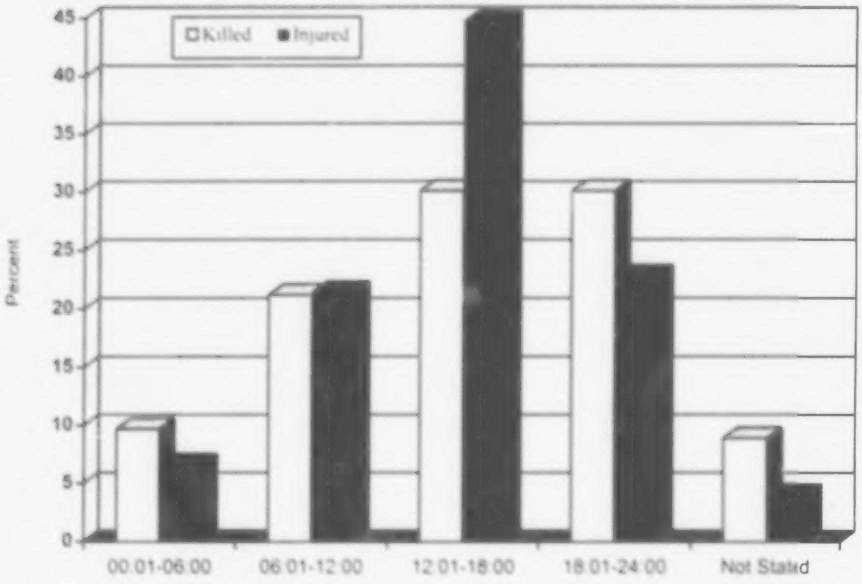
Male victims made up 60.2% (68) of all fatally injured victims, while females made up 39.8% (45). Of the total number of fatally injured males, those 65 years and older and 20-24 age group (23.5% and 14.7% respectively) incurred the largest number of fatalities. Among females, the age group that were most frequently killed in traffic collisions were those 65 years of older, 15-19 and 55-64, at 22.2%, 20.0% and 15.6% respectively.

By Time of Occurrence and Injury Type
1999

Time	Injury Type		Total	%
	Killed	Injured		
00:01 - 06:00	11	654	665	6.8
06:01 - 12:00	24	2087	2111	21.5
12:01 - 18:00	34	4343	4377	44.6
18:01 - 24:00	34	2218	2252	23.0
Not Stated	10	395	405	4.1
Total	113	9697	9810	100.0

The highest incidence of casualties (44.6%) occurred with the time frame of 12:01 – 18:00 hours. The time periods 12:01 – 18:00 and 18:01 – 24:00 hours each accounted for 30.1% (34) of the collision victims killed.

Comparison of Collision Victims by Injury Type and Time of Occurrence
1999

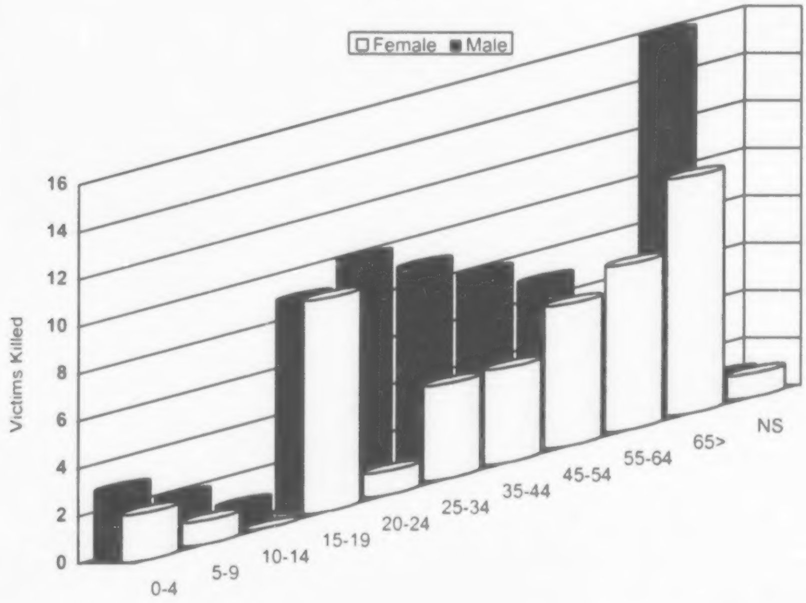


By Age Group, Injury Type, and Sex
1999

Age Group	Injury Type								Grand Total	Victims /1,000 Population[1]
	Killed				Injured					
	Male	Female	N.S.[2]	Total	Male	Female	N.S.[2]	Total		
0-4	3	2	0	5	61	57	0	118	123	1.5
5-9	2	1	0	3	136	104	0	240	243	2.9
10-14	1	0	0	1	143	176	0	319	320	3.9
15-19	9	9	0	18	557	699	0	1256	1274	16.4
20-24	10	1	0	11	487	549	0	1036	1047	13.8
25-34	9	4	0	13	699	837	0	1536	1549	9.4
35-44	8	4	0	12	674	799	0	1473	1485	8.5
45-54	7	6	0	13	476	656	0	1132	1145	8.6
55-64	2	7	0	9	258	348	0	606	615	6.8
65 >	16	10	0	26	281	344	0	625	651	4.3
N.S.[2]	1	1	0	2	662	693	1	1356	1358	-.-
Total	68	45	0	113	4434	5262	1	9697	9810	8.8

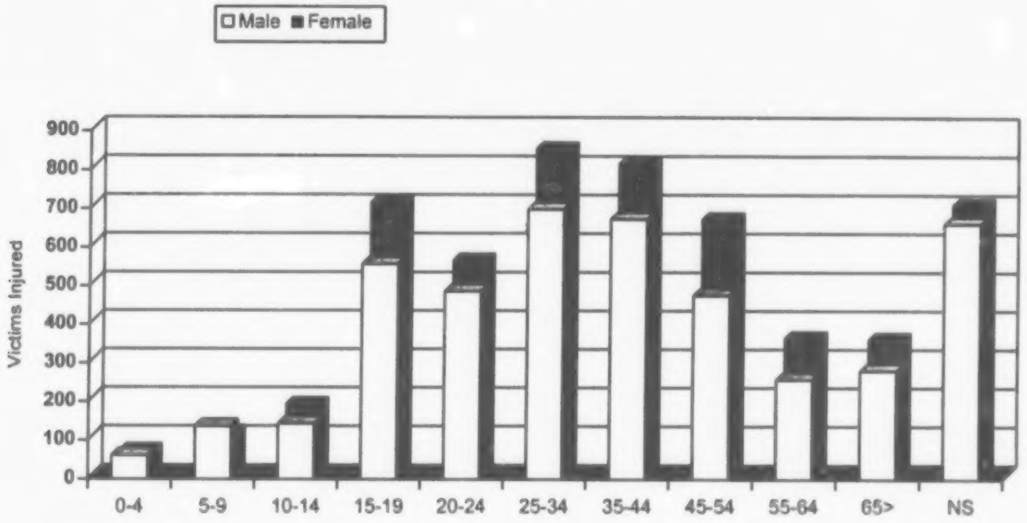
1. Based on 1996 rounded-up census statistics from Statistics Canada.
2. Not stated.

Comparison of Collision Victims Killed by Age Group and Sex
1999



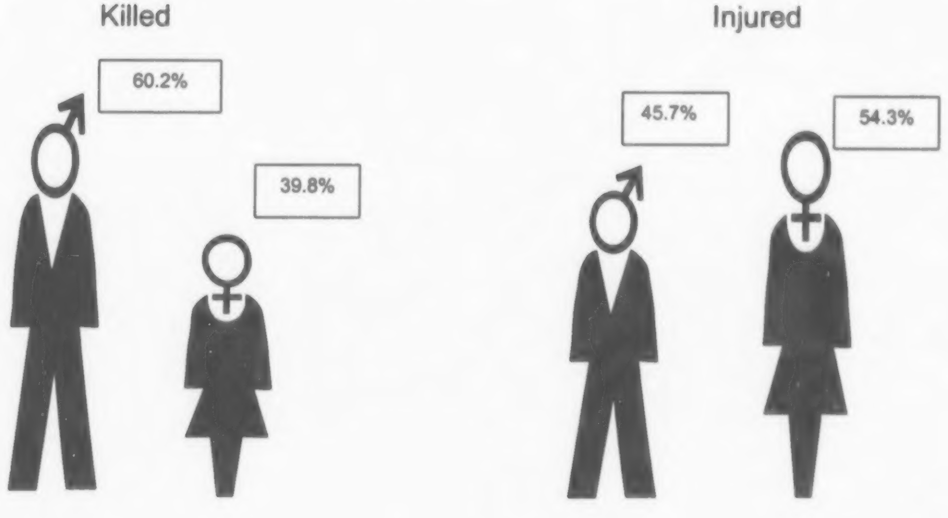
Male victims made up 60.2% (68) of all fatally injured victims, while females made up 39.8% (45). Of the total number of fatally injured males, those 65 years and older and 20-24 age group (23.5% and 14.7% respectively) incurred the largest number of fatalities. Among females, the age group that were most frequently killed in traffic collisions were those 65 years of older, 15-19 and 55-64, at 22.2%, 20.0% and 15.6% respectively.

Comparison of Collision Victims Injured by Age Group and Sex 1999



The number of female victims injured in all age groups is greater than for male victims with exception of the age group 0-9 years of age. Of all injured victims, 45.7% were male and 54.3% were female.

Comparison of Total Collision Victims by Injury Type and Sex 1999



Males are nearly twice as likely to be fatally injured in collisions than are females.

Total Collision Victims Killed by Road User Class and Age Group 1999

Road User Class	Age Group										Total	%
	0-4	5-14	15-19	20-24	25-34	35-44	45-54	55-64	65>	NS[1]		
Driver	0	0	9	8	7	8	5	7	13	0	57	50.4
Passenger	2	2	7	3	3	3	6	0	5	1	32	28.3
Pedestrian	3	1	2	0	1	1	2	2	8	1	21	18.6
Bicyclist	0	1	0	0	0	0	0	0	0	0	1	0.9
Motorcyclist[2]	0	0	0	0	2	0	0	0	0	0	2	1.8
Total	5	4	18	11	13	12	13	9	26	2	113	100.0

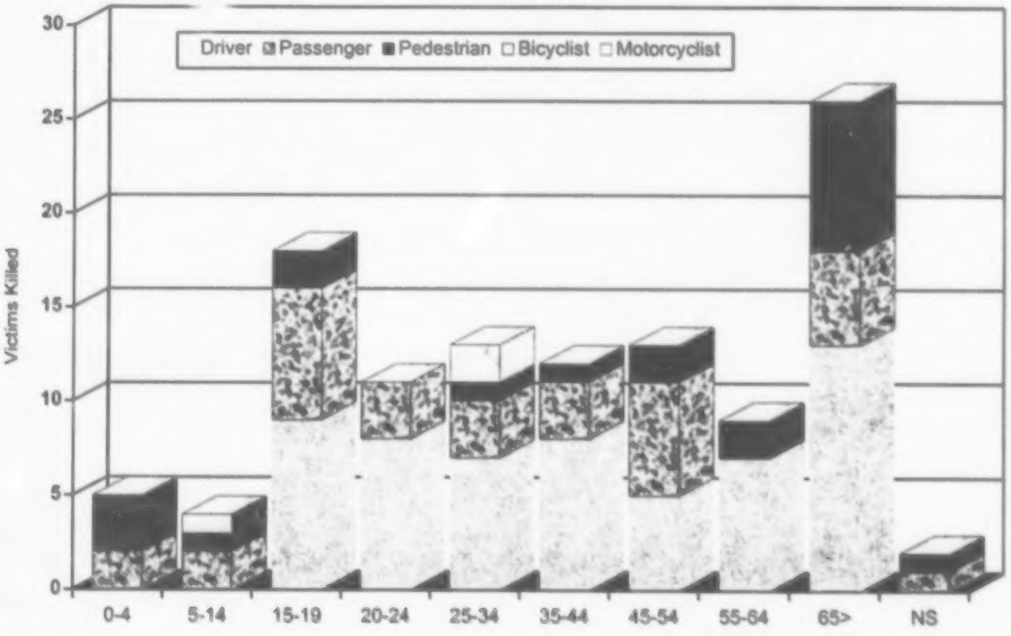
[1] NS means not stated.

[2] Includes passengers.

Motor vehicle drivers accounted for 50.4% of the persons killed in traffic collisions, while passengers accounted for 28.3%. Pedestrians comprised the third largest group of road users killed (18.6%), followed by motorcyclists (1.8%) and bicyclists (0.9%).

The 65 years and older age group accounted for 23.0 of fatally injured road users, followed by the 15-19 year group (15.9%). Among road users in the 15-19 year old category, drivers and passengers were the two road-user classes that were most often killed at 40.9%. Among persons aged 65 years or older who were killed in traffic collisions, motor vehicle drivers were most often killed (50.0%), followed by pedestrians at 30.8%.

Comparison of Collision Victims Killed by Road User Class and Age Group 1999



Total Collision Victims Killed by Road User Class and Age Group
1999

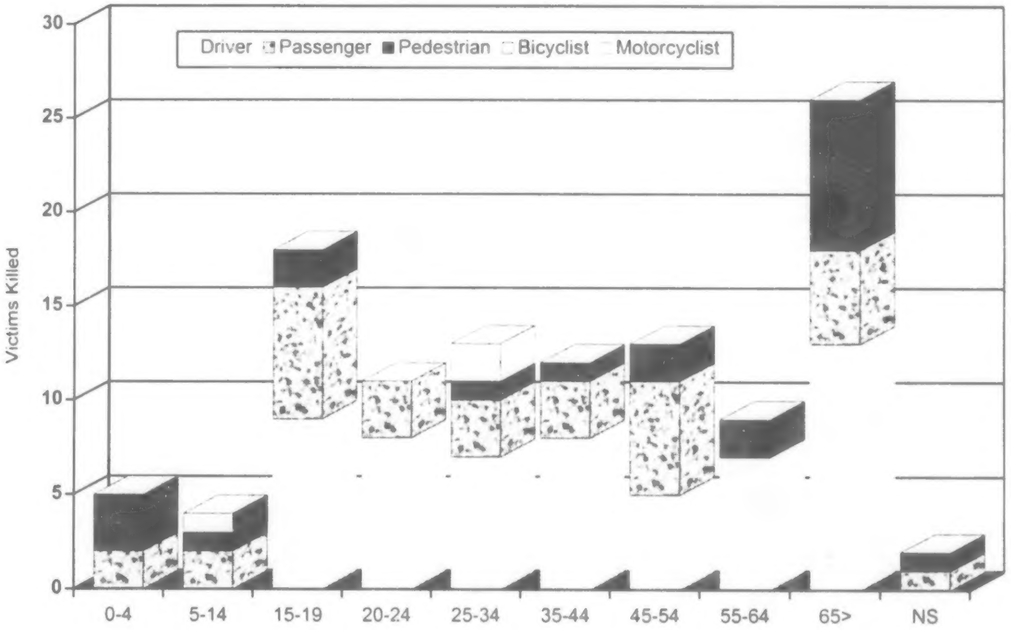
Road User Class	Age Group										Total	%
	0-4	5-14	15-19	20-24	25-34	35-44	45-54	55-64	65>	NS[1]		
Driver	0	0	9	8	7	8	5	7	13	0	57	50.4
Passenger	2	2	7	3	3	3	6	0	5	1	32	28.3
Pedestrian	3	1	2	0	1	1	2	2	8	1	21	18.6
Bicyclist	0	1	0	0	0	0	0	0	0	0	1	0.9
Motorcyclist[2]	0	0	0	0	2	0	0	0	0	0	2	1.8
Total	5	4	18	11	13	12	13	9	26	2	113	100.0

1. NS means not stated. 2. Includes passengers.

Motor vehicle drivers accounted for 50.4% of the persons killed in traffic collisions, while passengers accounted for 28.3%. Pedestrians comprised the third largest group of road users killed (18.6%), followed by motorcyclists (1.8%) and bicyclists (0.9%).

The 65 years and older age group accounted for 23.0 of fatally injured road users, followed by the 15-19 year group (15.9%). Among road users in the 15-19 year old category, drivers and passengers were the two road-user classes that were most often killed at 40.9%. Among persons aged 65 years or older who were killed in traffic collisions, motor vehicle drivers were most often killed (50.0%), followed by pedestrians at 30.8%.

Comparison of Collision Victims Killed by Road User Class and Age Group
1999



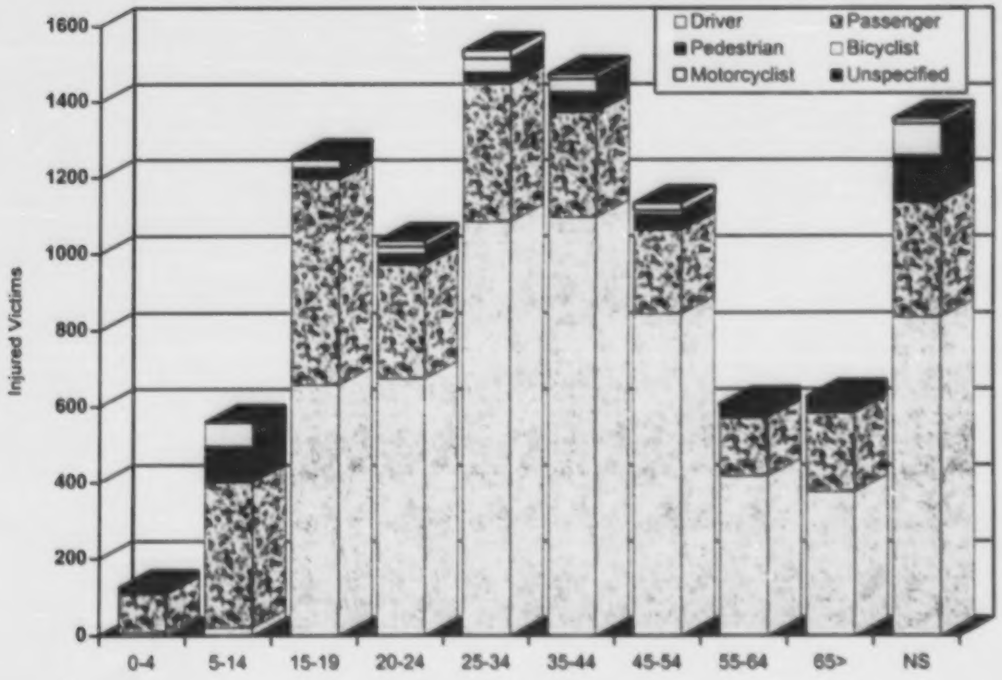
Total Collision Victims Injured by Road User Class and Age Group 1999

Road User Class	Age Group										Total	%
	0-4	5-14	15-19	20-24	25-34	35-44	45-54	55-64	65>	NS[1]		
Driver	3	21	658	674	1084	1095	843	417	375	833	6003	61.9
Passenger	97	379	536	296	361	275	217	151	206	300	2818	29.1
Pedestrian	15	97	33	31	33	56	43	29	41	126	504	5.2
Bicyclist	3	62	20	18	36	34	9	5	3	83	273	2.8
Motorcyclist[2]	0	0	8	15	22	13	20	4	0	13	95	1.0
Unspecified	0	0	1	2	0	0	0	0	0	1	4	-.-
Total	118	559	1256	1036	1536	1473	1132	606	625	1356	9697	100.0

1. NS means not stated. 2. Includes passengers.

Motor vehicle drivers and passengers accounted for 91.0% of road users injured. The remaining injured road users were distributed as follows: pedestrians 5.2%, bicyclists 2.8%, and motorcyclists 1.0%. Excluding age not stated, the 25-34 age group accounted for 18.4% of road users injured, followed by the 35-44 age group, at 17.7%.

Comparison of Collision Victims Injured by Road User Class and Age Group 1999

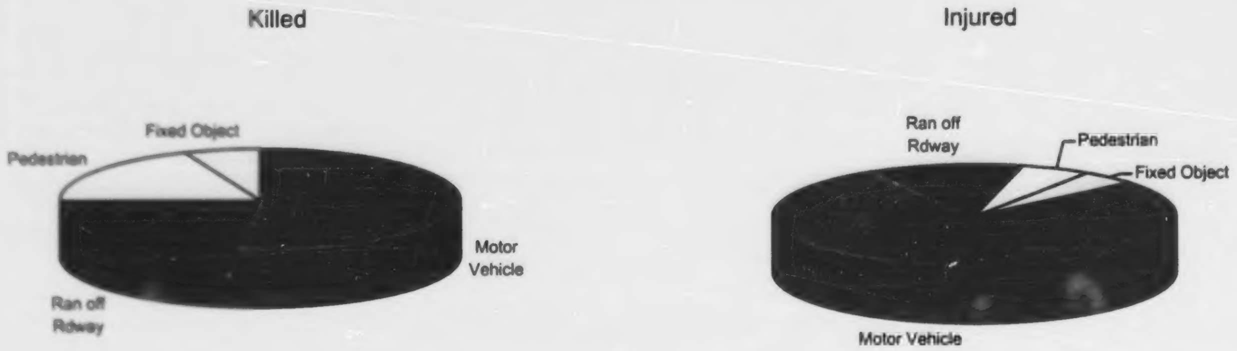


By Collision and Injury Types
1999

Collision Type	Injury Type		Total	%
	Killed	Injured		
Pedestrian	19	509	528	5.4
Motor Vehicle	52	7023	7075	72.1
Train	1	9	10	0.1
Motorcycle	3	83	86	0.9
Bicycle	1	273	274	2.8
Animal	0	176	176	1.8
Fixed Object	6	397	403	4.1
Other Object	3	35	38	0.4
Overturned	5	105	110	1.1
Ran Off Roadway	23	1065	1088	11.1
Other Non-Collision	0	22	22	0.2
Total	113	9697	9810	100.0

"Motor vehicle to motor vehicle" collisions accounted for 72.1% (7075) of the total collision victims, 46.0% (52) of fatally injured victims, and 72.4% (7023) of injured victims. "Ran off roadway" collisions made up 11.1% (1088) of the total collision victims. "Pedestrian" collisions accounted for 5.4% (528) of the total collision victims.

Distribution of Top Four Collision Types
By Killed and Injured
1999



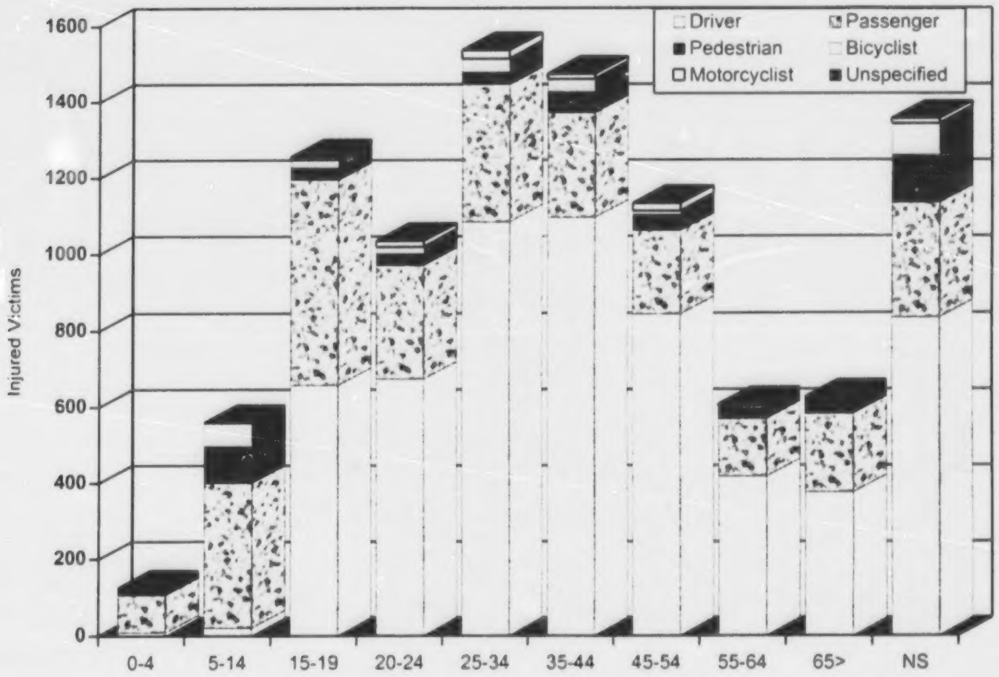
Total Collision Victims Injured
by Road User Class and Age Group
1999

Road User Class	Age Group										Total	%
	0-4	5-14	15-19	20-24	25-34	35-44	45-54	55-64	65>	NS[1]		
Driver	3	21	658	674	1084	1095	843	417	375	833	6003	61.9
Passenger	97	379	536	296	361	275	217	151	206	300	2818	29.1
Pedestrian	15	97	33	31	33	56	43	29	41	126	504	5.2
Bicyclist	3	62	20	18	36	34	9	5	3	83	273	2.8
Motorcyclist[2]	0	0	8	15	22	13	20	4	0	13	95	1.0
Unspecified	0	0	1	2	0	0	0	0	0	1	4	-.-
Total	118	559	1256	1036	1536	1473	1132	606	625	1356	9697	100.0

[1] NS means not stated. [2] Includes passengers.

Motor vehicle drivers and passengers accounted for 91.0% of road users injured. The remaining injured road users were distributed as follows: pedestrians 5.2%, bicyclists 2.8%, and motorcyclists 1.0%. Excluding age not stated, the 25-34 age group accounted for 18.4% of road users injured, followed by the 35-44 age group, at 17.7%.

Comparison of Collision Victims Injured
by Road User Class and Age Group
1999

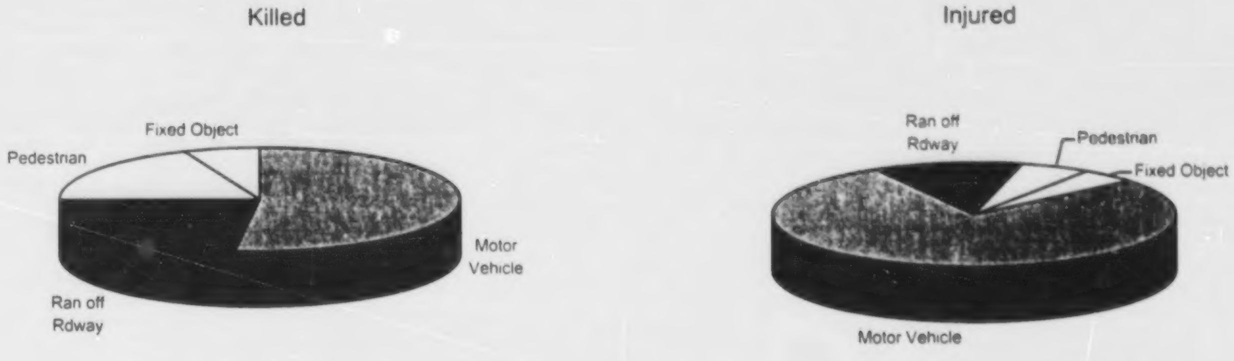


By Collision and Injury Types
1999

Collision Type	Injury Type		Total	%
	Killed	Injured		
Pedestrian	19	509	528	5.4
Motor Vehicle	52	7023	7075	72.1
Train	1	9	10	0.1
Motorcycle	3	83	86	0.9
Bicycle	1	273	274	2.8
Animal	0	176	176	1.8
Fixed Object	6	397	403	4.1
Other Object	3	35	38	0.4
Overturned	5	105	110	1.1
Ran Off Roadway	23	1065	1088	11.1
Other Non-Collision	0	22	22	0.2
Total	113	9697	9810	100.0

"Motor vehicle to motor vehicle" collisions accounted for 72.1% (7075) of the total collision victims, 46.0% (52) of fatally injured victims, and 72.4% (7023) of injured victims. "Ran off roadway" collisions made up 11.1% (1088) of the total collision victims. "Pedestrian" collisions accounted for 5.4% (528) of the total collision victims.

Distribution of Top Four Collision Types
By Killed and Injured
1999



By Accident Configuration and Injury Type
1999

Configuration	Injury Type		Total	%
	Killed	Injured		
Rear End	1	3179	3180	32.4
Head On	10	145	155	1.6
Side Swipe	3	82	85	0.9
Side Swipe	0	208	208	2.1
Overtaking	0	116	116	1.2
Right Turn	0	41	41	0.4
Right Turn	0	30	30	0.3
Left Turn	1	107	108	1.1
Left Turn	0	46	46	0.4
Left Turn	4	574	578	5.9
Intersection 90°	24	1969	1993	20.3
Off-Road Right	15	595	610	6.2
Off-Road Left	11	431	442	4.5
Fixed Object	1	250	251	2.6
Parking	0	38	38	0.4
Pedestrian	14	426	440	4.5
Other [1]	29	1460	1489	15.2
Total	113	9697	9810	100.0

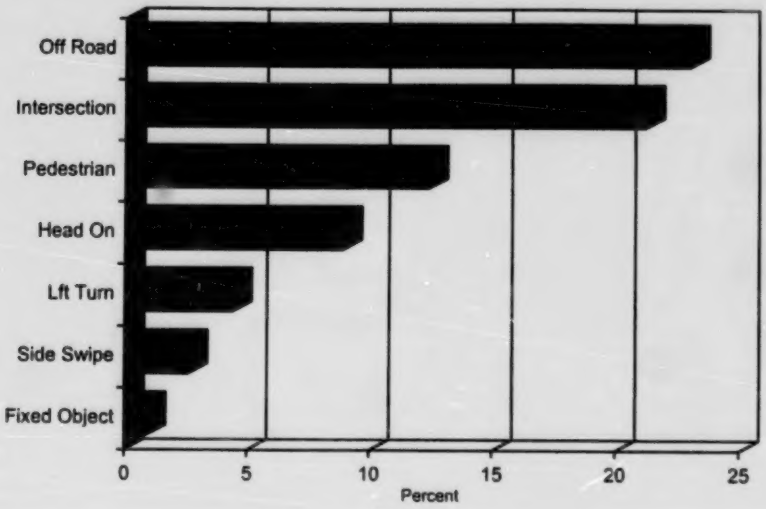
[1] Accidents with more than two vehicles involved or more than one configuration noted.

By Accident Configuration and Injury Type
1999

Configuration	Injury Type		Total	%
	Killed	Injured		
Rear End	1	3179	3180	32.4
Head On	10	145	155	1.6
Side Swipe	3	82	85	0.9
Side Swipe	0	208	208	2.1
Overtaking	0	116	116	1.2
Right Turn	0	41	41	0.4
Right Turn	0	30	30	0.3
Left Turn	1	107	108	1.1
Left Turn	0	46	46	0.4
Left Turn	4	574	578	5.9
Intersection 90°	24	1969	1993	20.3
Off-Road Right	15	595	610	6.2
Off-Road Left	11	431	442	4.5
Fixed Object	1	250	251	2.6
Parking	0	38	38	0.4
Pedestrian	14	426	440	4.5
Other [1]	29	1460	1489	15.2
Total	113	9697	9810	100.0

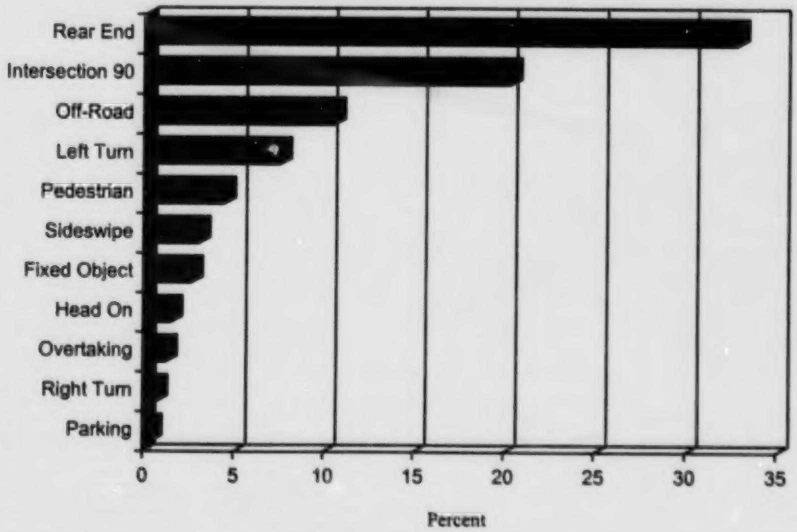
1. Accidents with more than two vehicles involved or more than one configuration noted.

Distribution of Collision Victims Killed by Accident Configuration*
1999



Most fatalities occurred in "intersection 90^{0}", "off-road, left and right", and "pedestrian" accident configurations. "Off-road, right or left" configuration involves a single vehicle entering the right-hand ditch or a vehicle crossing the road and entering the left-hand ditch. Injury severity may be higher in these "off-road" collisions because of the vehicle rolling over after entering the ditch.

Distribution of Collision Victims Injured by Accident Configuration*
1999



* Other category not graphically presented as the configuration usually refers to accidents involving more than two vehicles or more than one configuration.

Injuries occurred most often in "rear-end" (32.8%) and "intersection 90^{0}" (20.3%) accident configurations and least often in "parking" configurations.

By Vehicle Defect and Injury Type
1999

Vehicle Defect	Injury Type		Total	%
	Killed	Injured		
No Apparent Defect	37	5464	5501	56.1
Defective Brakes	1	29	30	0.3
Defective Steering	0	2	2	-.-
Defective Headlights	0	2	2	-.-
Defective Brake Lights	0	1	1	-.-
Defective Lighting (Unspecified)	0	4	4	0.1
Defective Engine Control/Drive Train	1	11	12	0.1
Defective Suspension/Wheels	0	1	1	-.-
Defective Tires	0	33	33	0.3
Defective Tow Hitch/Yoke	0	0	0	0.0
Defective Exhaust System	0	4	4	0.1
Hood/Tailgate/Door/Covering Opened	0	1	1	-.-
Defective Glazing (Obscured Windows)	0	0	0	0.0
Vehicle Modifications	0	0	0	0.0
Fire	0	1	1	-.-
Overloaded/Oversized	0	0	0	0.0
Load Shifted/Spilled	0	3	3	-.-
Jack-Knife/Trailer Swing	0	3	3	-.-
Hydroplaning of Tires	0	6	6	0.1
Not Stated	74	4132	4206	42.9
Total	113	9697	9810	100.0

Two victims were fatally injured in vehicles that had an apparent defect at the time of collision occurrence.

The reader is cautioned the "vehicle defect" statistics are obtained from traffic accident reports completed by the person reporting the collision and as such they may be unaware of a vehicle defect prior to collision occurrence.

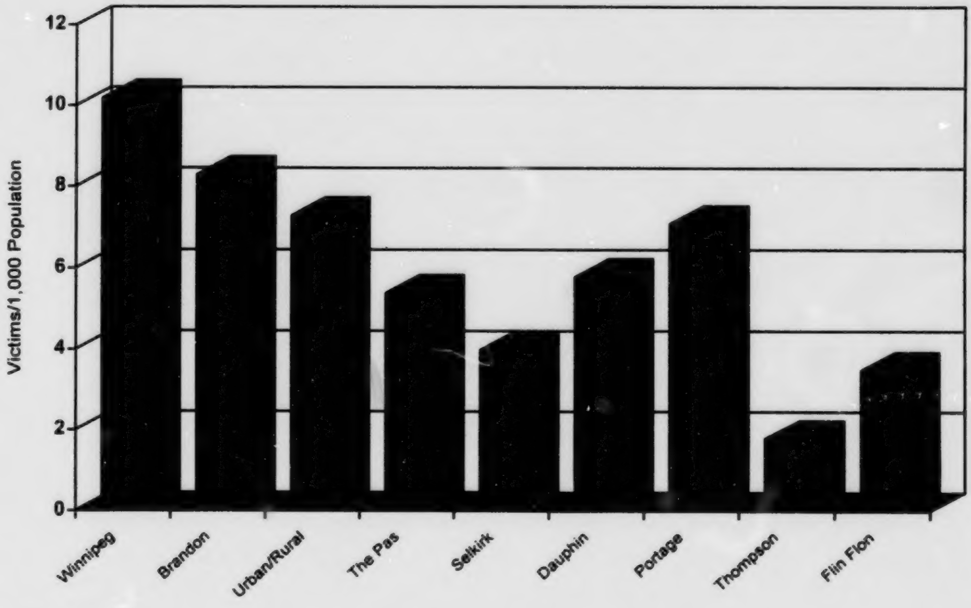
By Provincial Location and Injury Type
1999

Location	Injury Type		Total	%	Victims /1,000 Population[1]
	Killed	Injured			
Winnipeg	23	6298	6321	64.4	10.2
Brandon	1	325	326	3.3	8.3
Portage la Prairie	0	93	93	1.0	7.1
Flin Flon	0	23	23	0.2	3.5
Dauphin	0	48	48	0.5	5.8
Thompson	1	25	26	0.3	1.8
The Pas	0	32	32	0.3	5.4
Selkirk	0	40	40	0.4	4.0
Other Urban	4	502	506	5.2	7.3
Rural	84	2311	2395	24.4	
Total	113	9697	9810	100.0	8.8

1. Based on 1996 rounded-up census statistics from Statistics Canada.

Traffic accidents within the City of Winnipeg accounted for 64.4% (6321) of the total collision victims. Outside of Winnipeg, 11.2% (1094) of the total collision victims occurred within other communities and 24.4% (2395) occurred in rural areas. Rural areas accounted for 74.3% (84) of all fatally injured collision victims. One reason for a higher number of rural fatalities than urban fatalities (over a 3 to 1 ratio) is that collisions on rural roadways occur at much higher speeds (90 to 100km/h) than those in urban areas (50 to 60 km/h). Higher roadway speeds increase the likelihood of fatal injuries.

Distribution of Total Collision Victims by Provincial Location /1,000 Population
1999



By Vehicle Defect and Injury Type
1999

Vehicle Defect	Injury Type		Total	%
	Killed	Injured		
No Apparent Defect	37	5464	5501	56.1
Defective Brakes	1	29	30	0.3
Defective Steering	0	2	2	-.-
Defective Headlights	0	2	2	-.-
Defective Brake Lights	0	1	1	-.-
Defective Lighting (Unspecified)	0	4	4	0.1
Defective Engine Control/Drive Train	1	11	12	0.1
Defective Suspension/Wheels	0	1	1	-.-
Defective Tires	0	33	33	0.3
Defective Tow Hitch/Yoke	0	0	0	0.0
Defective Exhaust System	0	4	4	0.1
Hood/Tailgate/Door/Covering Opened	0	1	1	-.-
Defective Glazing (Obscured Windows)	0	0	0	0.0
Vehicle Modifications	0	0	0	0.0
Fire	0	1	1	-.-
Overloaded/Oversized	0	0	0	0.0
Load Shifted/Spilled	0	3	3	-.-
Jack-Knife/Trailer Swing	0	3	3	-.-
Hydroplaning of Tires	0	6	6	0.1
Not Stated	74	4132	4206	42.9
Total	113	9697	9810	100.0

Two victims were fatally injured in vehicles that had an apparent defect at the time of collision occurrence.

The reader is cautioned the "vehicle defect" statistics are obtained from traffic accident reports completed by the person reporting the collision and as such they may be unaware of a vehicle defect prior to collision occurrence.

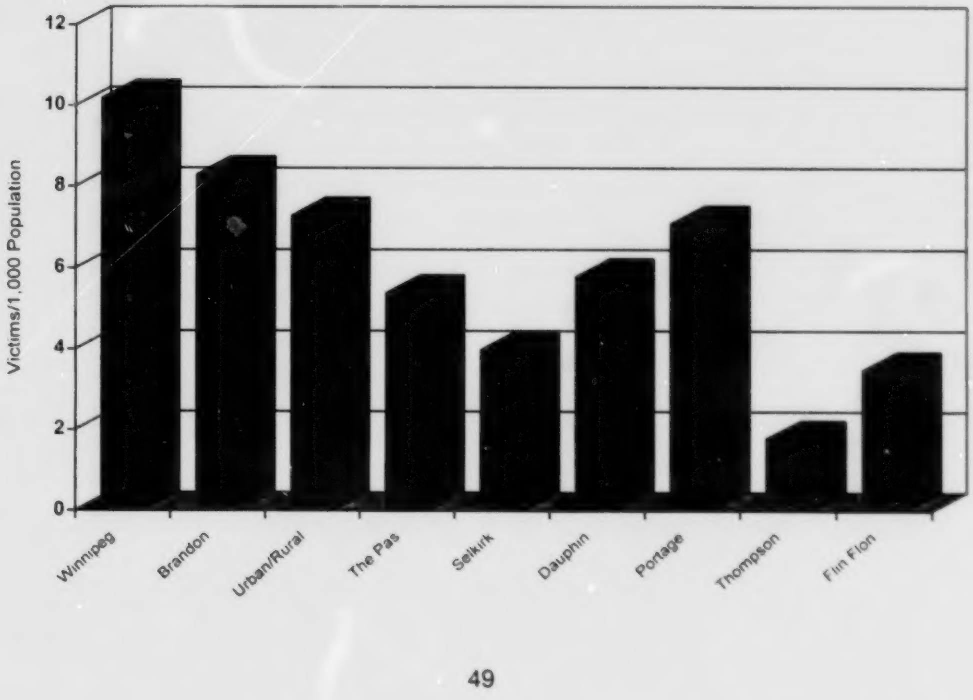
By Provincial Location and Injury Type
1999

Location	Injury Type		Total	%	Victims /1,000 Population[1]
	Killed	Injured			
Winnipeg	23	6298	6321	64.4	10.2
Brandon	1	325	326	3.3	8.3
Portage la Prairie	0	93	93	1.0	7.1
Flin Flon	0	23	23	0.2	3.5
Dauphin	0	48	48	0.5	5.8
Thompson	1	25	26	0.3	1.8
The Pas	0	32	32	0.3	5.4
Selkirk	0	40	40	0.4	4.0
Other Urban	4	502	506	5.2	7.3
Rural	84	2311	2395	24.4	
Total	113	9697	9810	100.0	8.8

1. Based on 1996 rounded-up census statistics from Statistics Canada.

Traffic accidents within the City of Winnipeg accounted for 64.4% (6321) of the total collision victims. Outside of Winnipeg, 11.2% (1094) of the total collision victims occurred within other communities and 24.4% (2395) occurred in rural areas. Rural areas accounted for 74.3% (84) of all fatally injured collision victims. One reason for a higher number of rural fatalities than urban fatalities (over a 3 to 1 ratio) is that collisions on rural roadways occur at much higher speeds (90 to 100km/h) than those in urban areas (50 to 60 km/h). Higher roadway speeds increase the likelihood of fatal injuries.

Distribution of Total Collision Victims by Provincial Location /1,000 Population
1999



By Safety Equipment and Ejection
Fatal Vehicle Occupant Victims[1]
1999

Safety Equipment	Victims	%	Ejected	Partially Ejected
Lap Belt Installed – In Use	2	2.4		
Lap Belt Installed – Not In Use	3	3.5		
Shoulder Belt Installed – In Use	1	1.1		
Shoulder Belt Installed – Not In Use	1	1.1		
Lap/Shoulder Belt Assembly – In Use	35	40.3		
Combined Belt Assembly Installed – Not in Use	36	41.4	14	3
Safety Seat Improperly Installed – In Use	1	1.1		
Air Bar Deployed/Safety Belt In Use	1	1.1		
Air Bar Deployed/Safety Belt Not In Use	1	1.1		
Unknown	6	6.9		
Total	87	100.0		

1. Fatal vehicle occupant victim category excludes pedestrians, motorcyclists and bicyclists.

Of the total fatal vehicle occupant victims, 41 or 47.1% were known not to be wearing a safety device at time of collision occurrence.

A total of 16.1% (14) of fatal injured victims were ejected from the vehicle and 3.4% (3) were partially ejected.

By Safety Equipment and Ejection
Fatal Vehicle Occupant Victims[1]
1999

Safety Equipment	Victims	%	Ejected	Partially Ejected
Lap Belt Installed – In Use	2	2.4		
Lap Belt Installed – Not In Use	3	3.5		
Shoulder Belt Installed – In Use	1	1.1		
Shoulder Belt Installed – Not In Use	1	1.1		
Lap/Shoulder Belt Assembly – In Use	35	40.3		
Combined Belt Assembly Installed – Not in Use	36	41.4	14	3
Safety Seat Improperly Installed – In Use	1	1.1		
Air Bar Deployed/Safety Belt In Use	1	1.1		
Air Bar Deployed/Safety Belt Not In Use	1	1.1		
Unknown	6	6.9		
Total	87	100.0		

1. Fatal vehicle occupant victim category excludes pedestrians, motorcyclists and bicyclists.

Of the total fatal vehicle occupant victims, 41 or 47.1% were known not to be wearing a safety device at time of collision occurrence.

A total of 16.1% (14) of fatal injured victims were ejected from the vehicle and 3.4% (3) were partially ejected.

Section 6

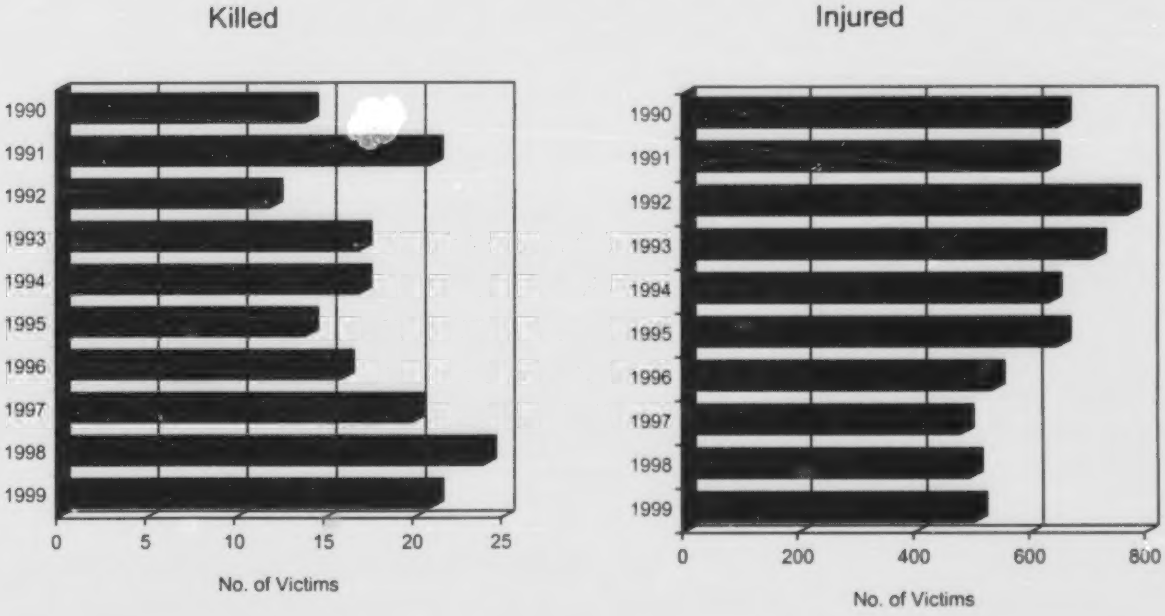
Pedestrian Victims

Ten Year Summary
1990 – 1999

Year	Injury Type		Total
	Killed	Injured	
1990	14	650	664
1991	21	631	652
1992	12	771	783
1993	17	711	728
1994	17	634	651
1995	14	650	664
1996	16	535	551
1997	20	481	501
1998	24	496	520
1999	21	504	525

The number of pedestrians killed in traffic collisions fell by 12.5% between 1998 and 1999, from 24 to 21 while the number injured rose by 1.6%, from 496 in 1998 to 504 in 1999.

Comparison of Pedestrian Victims
1990 – 1999

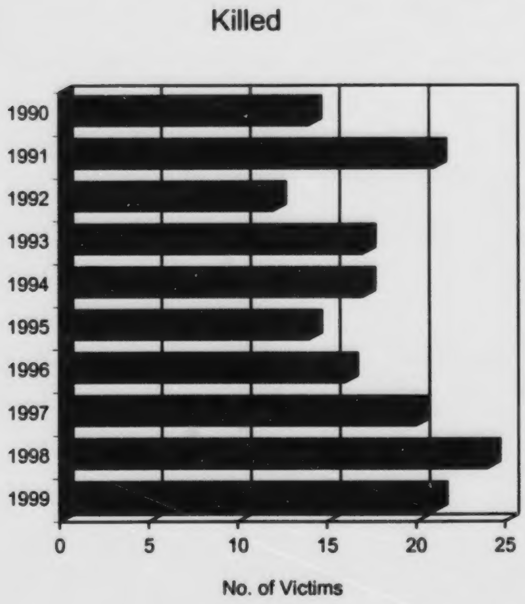


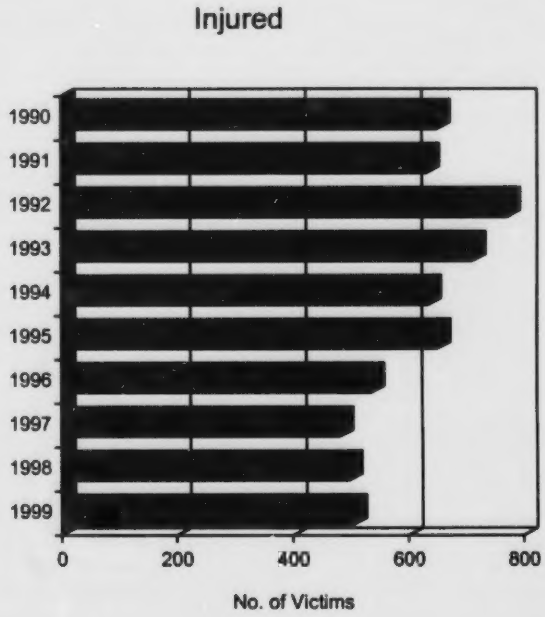
Ten Year Summary
1990 – 1999

Year	Injury Type		Total
	Killed	Injured	
1990	14	650	664
1991	21	631	652
1992	12	771	783
1993	17	711	728
1994	17	634	651
1995	14	650	664
1996	16	535	551
1997	20	481	501
1998	24	496	520
1999	21	504	525

The number of pedestrians killed in traffic collisions fell by 12.5% between 1998 and 1999, from 24 to 21 while the number injured rose by 1.6%, from 496 in 1998 to 504 in 1999.

Comparison of Pedestrian Victims
1990 – 1999



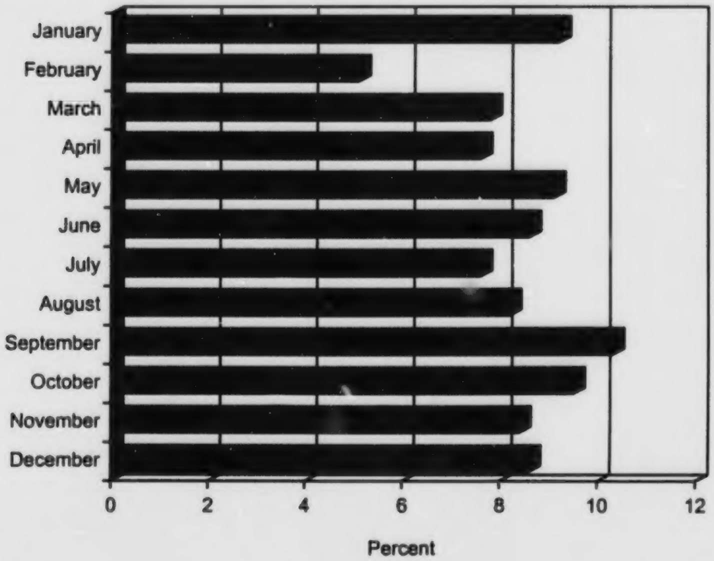


By Month of Occurrence and Injury Type
1999

Month	Injury Type		Total	%
	Killed	Injured		
January	1	47	48	9.2
February	0	27	27	5.1
March	3	38	41	7.8
April	4	36	40	7.6
May	1	47	48	9.1
June	4	41	45	8.6
July	0	40	40	7.6
August	1	42	43	8.2
September	3	51	54	10.3
October	1	49	50	9.5
November	2	42	44	8.4
December	1	44	45	8.6
Total	21	504	525	100.0

Four pedestrian fatalities were recorded in each of the months of April and June and three each in March and September. September accounted for the highest number of total pedestrian victims with 54, followed by October with 50, and January and May with 48 each.

Distribution of Total Pedestrian Victims by Month of Occurrence
1999

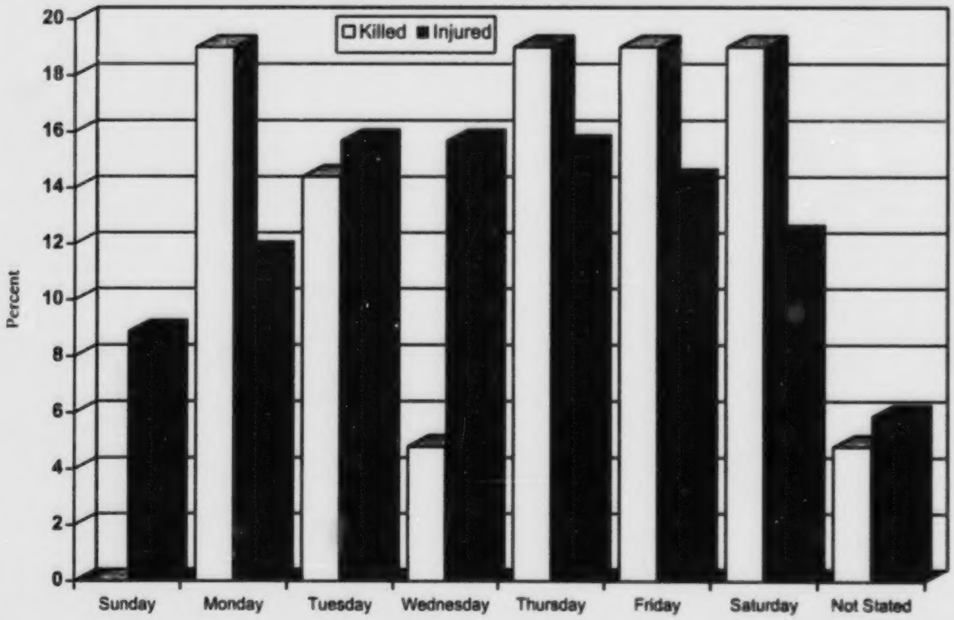


By Day of Occurrence and Injury Type
1999

Day	Injury Type		Total	%
	Killed	Injured		
Sunday	0	45	45	8.6
Monday	4	59	63	12.0
Tuesday	3	79	82	15.6
Wednesday	1	79	80	15.2
Thursday	4	78	82	15.6
Friday	4	72	76	14.5
Saturday	4	62	66	12.6
Not Stated	1	30	31	5.9
Total	21	504	525	100.0

Monday, Thursday, Friday and Saturday each accounted for four pedestrian fatalities. No fatalities occurred on Sunday. The highest percentage of pedestrian injuries occurred on Tuesday and Wednesday at 15.7% and least often on Sundays, at 8.9%.

Comparison of Pedestrian Victims by Day of Occurrence and Injury Type
1999

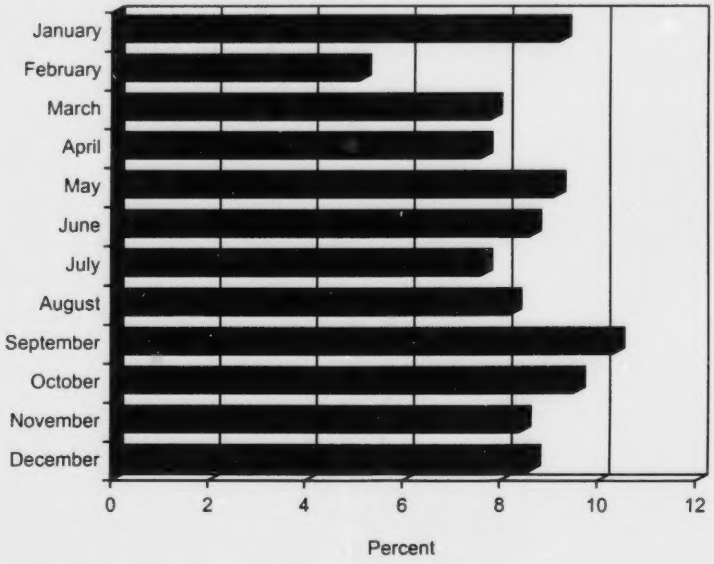


By Month of Occurrence and Injury Type
1999

Month	Injury Type		Total	%
	Killed	Injured		
January	1	47	48	9.2
February	0	27	27	5.1
March	3	38	41	7.8
April	4	36	40	7.6
May	1	47	48	9.1
June	4	41	45	8.6
July	0	40	40	7.6
August	1	42	43	8.2
September	3	51	54	10.3
October	1	49	50	9.5
November	2	42	44	8.4
December	1	44	45	8.6
Total	21	504	525	100.0

Four pedestrian fatalities were recorded in each of the months of April and June and three each in March and September. September accounted for the highest number of total pedestrian victims with 54, followed by October with 50, and January and May with 48 each.

Distribution of Total Pedestrian Victims by Month of Occurrence
1999

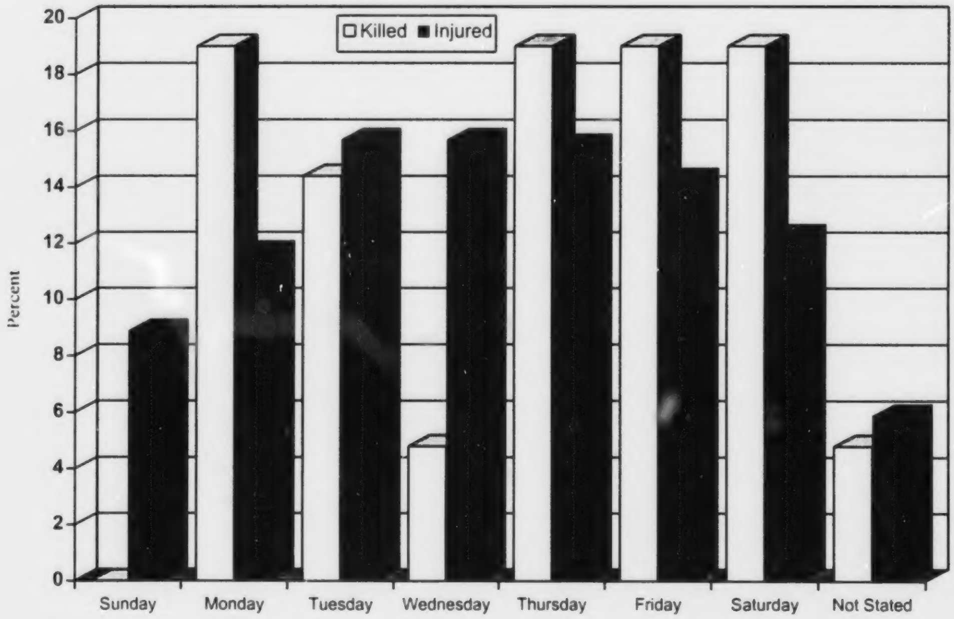


By Day of Occurrence and Injury Type
1999

Day	Injury Type		Total	%
	Killed	Injured		
Sunday	0	45	45	8.6
Monday	4	59	63	12.0
Tuesday	3	79	82	15.6
Wednesday	1	79	80	15.2
Thursday	4	78	82	15.6
Friday	4	72	76	14.5
Saturday	4	62	66	12.6
Not Stated	1	30	31	5.9
Total	21	504	525	100.0

Monday, Thursday, Friday and Saturday each accounted for four pedestrian fatalities. No fatalities occurred on Sunday. The highest percentage of pedestrian injuries occurred on Tuesday and Wednesday at 15.7% and least often on Sundays, at 8.9%.

Comparison of Pedestrian Victims by Day of Occurrence and Injury Type
1999

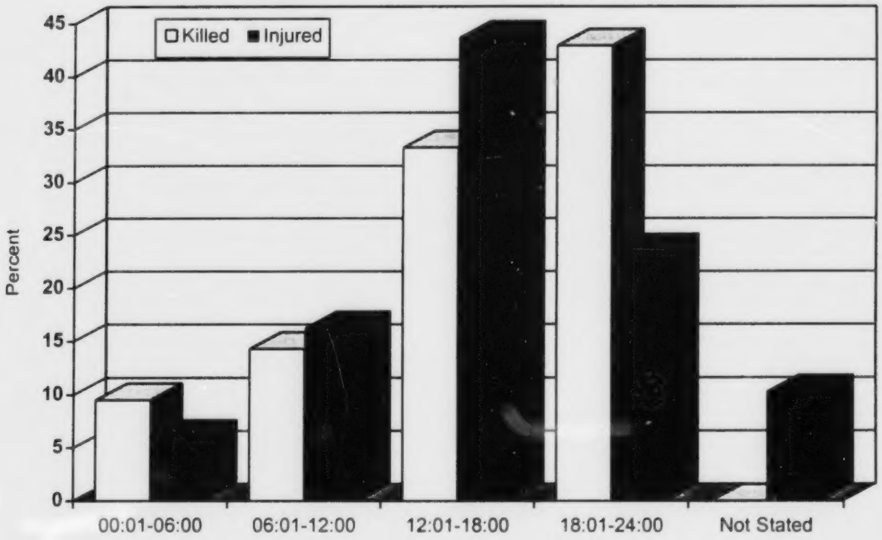


By Time of Occurrence and Injury Type
1999

Time	Injury Type		Total	%
	Killed	Injured		
00:01 - 06:00	2	31	33	6.3
06:01 - 12:00	3	82	85	16.2
12:01 - 18:00	7	220	227	43.2
18:01- 24:00	9	119	128	24.4
Not Stated	0	52	52	9.9
Total	21	504	525	100.0

The time period 12:01-18:00 hours accounted for 43.2% (227) of the total number of pedestrian collision victims. The time period 18:01-24:00 hours had the most number of pedestrian victims killed, 9 or 42.9 percent.

Comparison of Pedestrian Victims by Time of Occurrence and Injury Type
1999

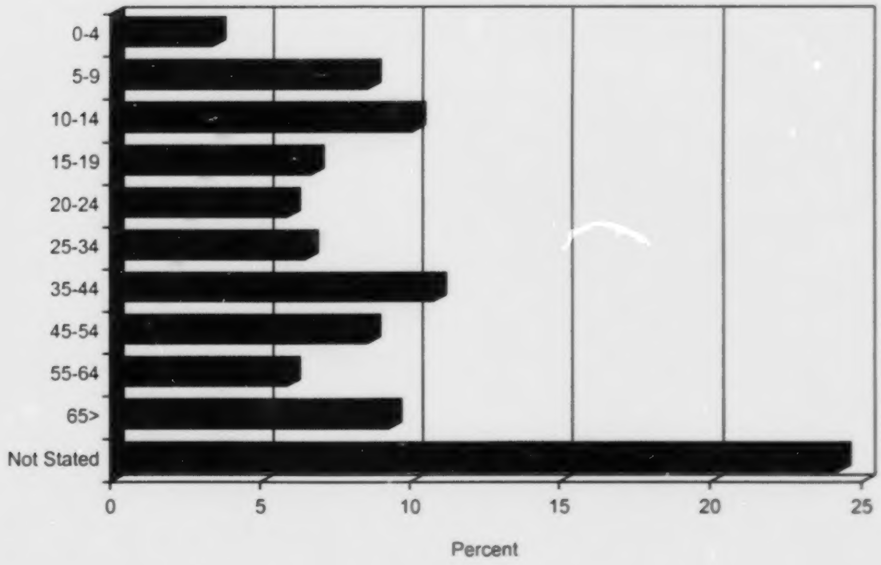


By Age Group and Injury Type
1999

Age Group	Injury Type		Total	%
	Killed	Injured		
0-4	3	15	18	3.4
5-9	0	45	45	8.6
10-14	1	52	53	10.1
15-19	2	33	35	6.7
20-24	0	31	31	5.9
25-34	1	33	34	6.5
35-44	1	56	57	10.8
45-54	2	43	45	8.6
55-64	2	29	31	5.9
65>	8	41	49	9.3
Not Stated	1	126	127	24.2
Total	21	504	525	100.0

Of the total number of fatally injured pedestrians, 38.1% (8) were over the age of 65. By contrast, only 23.0% of the *total fatally injured collision victims* fall into the over 65 age group. Children (0-14) comprised 19.0% of total pedestrians fatally injured, compared to 8.0% of all *fatally injured collision victims*. As well, this group made up 22.2% of pedestrians injured, compared to 7.0% of *all injured* collision victims.

Distribution of Total Pedestrian Victims by Age Group 1999

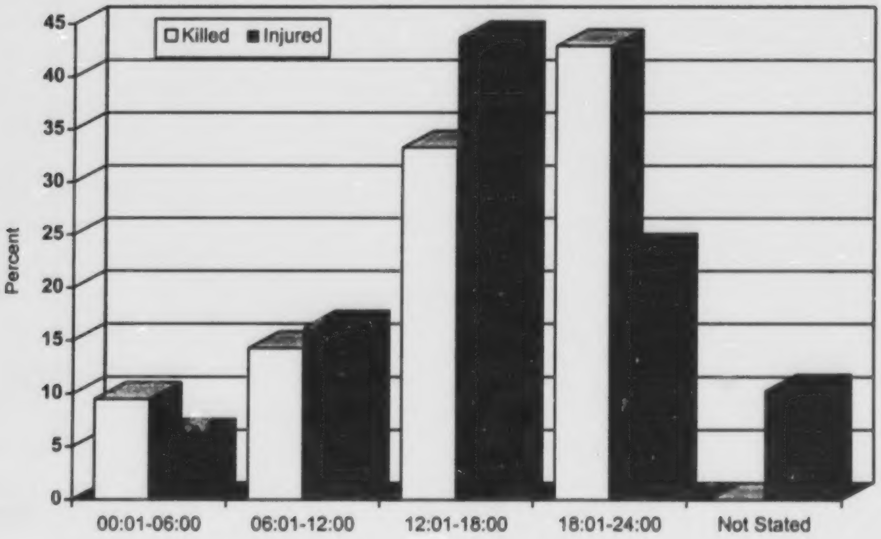


By Time of Occurrence and Injury Type
1999

Time	Injury Type		Total	%
	Killed	Injured		
00:01 - 06:00	2	31	33	6.3
06:01 - 12:00	3	82	85	16.2
12:01 - 18:00	7	220	227	43.2
18:01- 24:00	9	119	128	24.4
Not Stated	0	52	52	9.9
Total	21	504	525	100.0

The time period 12:01-18:00 hours accounted for 43.2% (227) of the total number of pedestrian collision victims. The time period 18:01-24:00 hours had the most number of pedestrian victims killed, 9 or 42.9 percent.

Comparison of Pedestrian Victims
by Time of Occurrence and Injury Type
1999

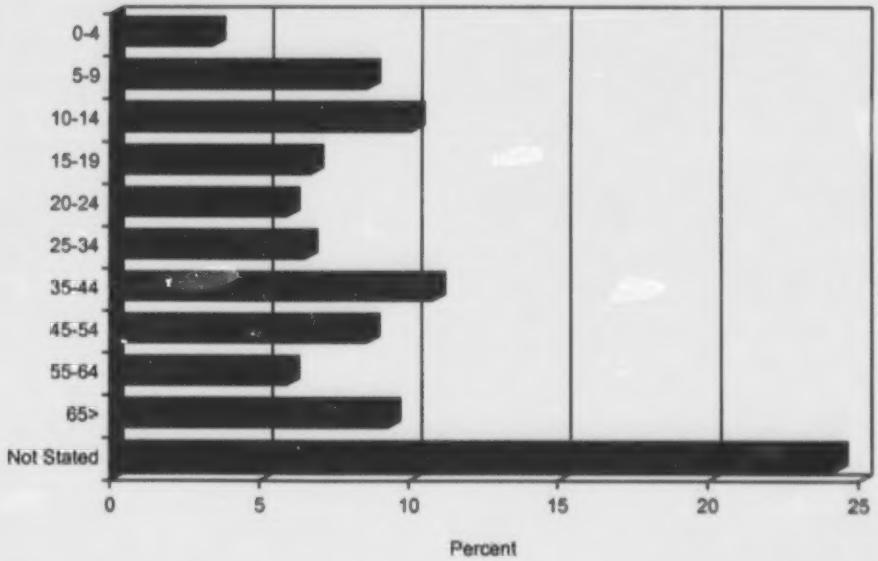


By Age Group and Injury Type
1999

Age Group	Injury Type		Total	%
	Killed	Injured		
0-4	3	15	18	3.4
5-9	0	45	45	8.6
10-14	1	52	53	10.1
15-19	2	33	35	6.7
20-24	0	31	31	5.9
25-34	1	33	34	6.5
35-44	1	56	57	10.8
45-54	2	43	45	8.6
55-64	2	29	31	5.9
65>	8	41	49	9.3
Not Stated	1	126	127	24.2
Total	21	504	525	100.0

Of the total number of fatally injured pedestrians, 38.1% (8) were over the age of 65. By contrast, only 23.0% of the *total fatally injured collision victims* fall into the over 65 age group. Children (0-14) comprised 19.0% of total pedestrians fatally injured, compared to 8.0% of all *fatally injured collision victims*. As well, this group made up 22.2% of pedestrians injured, compared to 7.0% of *all injured* collision victims.

Distribution of Total Pedestrian Victims
by Age Group
1999



By Pedestrian Action and Injury Type
1999

Pedestrian Action	Injury Type		Total	%
	Killed	Injured		
At Intersection, crossing with right-of-way	2	75	77	14.7
At Intersection, crossing without right-of-way	1	32	33	6.3
At Intersection, crossing, no traffic control	0	9	9	1.7
Between Intersections, crossing roadway	2	55	57	10.9
Walking along roadway with traffic	1	4	5	1.0
Walking along roadway against traffic	1	5	6	1.1
On Sidewalk/Median/Safety Zone	0	12	12	2.3
Walking on roadway (travelled portion)	3	15	18	3.4
From behind Vehicle/Object on roadside	2	10	12	2.3
Running into roadway	1	38	39	7.4
Pushing/Working on vehicle	0	6	6	1.1
Getting on/off another vehicle	1	0	1	0.2
Playing on roadway	2	3	5	1.0
Working on roadway	0	1	1	0.2
Lying on roadway	1	1	2	0.3
Unknown	4	237	241	45.9
Other	0	1	1	0.2
Total	21	504	525	100.0

Pedestrian action at intersections accounted for 14.3% (3) of the total number of fatally injured pedestrians. Of the three intersection fatalities, two victims were "crossing with the right of way" and one was "crossing without the right of way". Non-intersection pedestrian action accounted for 66.7% (14) of the total number of pedestrians fatally injured.

By Pedestrian Action and Age Group
1999

Pedestrian Action	Age Group											Total
	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65>	NS	
At Intersection, crossing with right-of-way	1	3	6	6	3	6	14	6	9	8	15	77
At Intersection, crossing without right-of-way	0	0	4	3	2	1	2	4	4	6	7	33
At Intersection, crossing with no traffic control	0	1	0	1	0	1	2	2	1	1	0	9
Between Intersections, crossing roadway	1	8	7	4	2	5	7	7	1	3	12	57
Walking along roadway with traffic	0	0	0	2	0	0	1	0	1	1	0	5
Walking along roadway against traffic	0	0	2	1	0	0	0	0	0	0	3	6
On Sidewalk/Median/Safety Zone	0	0	2	0	1	1	3	4	0	0	1	12
Walking on Roadway (travelled portion)	0	0	0	1	2	3	0	3	2	1	6	18
From behind Vehicle/ Object on roadway	0	4	1	1	0	0	1	0	2	2	1	12
Running into Roadway	7	10	7	2	3	2	1	1	0	1	5	39
Getting On/Off Another Vehicle	0	0	0	1	0	0	0	0	0	0	0	1
Pushing/Working on Vehicle	0	0	0	0	2	1	1	1	0	0	1	6
Playing on Roadway	3	1	1	0	0	0	0	0	0	0	0	5
Working on Roadway	0	0	0	0	1	0	0	0	0	0	0	1
Lying on Roadway	0	0	0	0	0	2	0	0	0	0	0	2
Unknown	6	18	23	12	15	12	25	17	11	26	76	241
Other	0	0	0	1	0	0	0	0	0	0	0	1
Total	18	45	53	35	31	34	57	45	31	49	127	525
%	3.4	8.6	10.1	6.6	5.9	6.5	10.9	8.6	5.9	9.3	24.2	100.0

Among all pedestrian casualties aged 15 and older, the two most frequently reported pedestrian actions prior to being struck by a motor vehicle were "crossing at intersections with right-of-way" and "crossing roadway between intersections". "Crossing, with right-of-way", "crossing at intersection without right-of-way" and "crossing roadway between intersections" were cited most often for pedestrians 65 years of age and older.

Younger pedestrians had actions *considerably different* from those reported for the older pedestrians. Among pedestrians four years of age and younger, the most frequently cited pedestrian actions were "running into roadway", and "playing on roadway". Of the total 5-9 and 10-14 year old pedestrians, "running into the roadway", "crossing roadway between intersections" and "crossing at intersections with right-of-way" were the most frequently reported actions.

By Pedestrian Action and Injury Type
1999

Pedestrian Action	Injury Type		Total	%
	Killed	Injured		
At Intersection, crossing with right-of-way	2	75	77	14.7
At Intersection, crossing without right-of-way	1	32	33	6.3
At Intersection, crossing, no traffic control	0	9	9	1.7
Between Intersections, crossing roadway	2	55	57	10.9
Walking along roadway with traffic	1	4	5	1.0
Walking along roadway against traffic	1	5	6	1.1
On Sidewalk/Median/Safety Zone	0	12	12	2.3
Walking on roadway (travelled portion)	3	15	18	3.4
From behind Vehicle/Object on roadside	2	10	12	2.3
Running into roadway	1	38	39	7.4
Pushing/Working on vehicle	0	6	6	1.1
Getting on/off another vehicle	1	0	1	0.2
Playing on roadway	2	3	5	1.0
Working on roadway	0	1	1	0.2
Lying on roadway	1	1	2	0.3
Unknown	4	237	241	45.9
Other	0	1	1	0.2
Total	21	504	525	100.0

Pedestrian action at intersections accounted for 14.3% (3) of the total number of fatally injured pedestrians. Of the three intersection fatalities, two victims were "crossing with the right of way" and one was "crossing without the right of way". Non-intersection pedestrian action accounted for 66.7% (14) of the total number of pedestrians fatally injured.

By Pedestrian Action and Age Group
1999

Pedestrian Action	Age Group											Total
	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65>	NS	
At Intersection, crossing with right-of-way	1	3	6	6	3	6	14	6	9	8	15	77
At Intersection, crossing without right-of-way	0	0	4	3	2	1	2	4	4	6	7	33
At Intersection, crossing with no traffic control	0	1	0	1	0	1	2	2	1	1	0	9
Between Intersections, crossing roadway	1	8	7	4	2	5	7	7	1	3	12	57
Walking along roadway with traffic	0	0	0	2	0	0	1	0	1	1	0	5
Walking along roadway against traffic	0	0	2	1	0	0	0	0	0	0	3	6
On Sidewalk/Median/Safety Zone	0	0	2	0	1	1	3	4	0	0	1	12
Walking on Roadway (travelled portion)	0	0	0	1	2	3	0	3	2	1	6	18
From behind Vehicle/ Object on roadway	0	4	1	1	0	0	1	0	2	2	1	12
Running into Roadway	7	10	7	2	3	2	1	1	0	1	5	39
Getting On/Off Another Vehicle	0	0	0	1	0	0	0	0	0	0	0	1
Pushing/Working on Vehicle	0	0	0	0	2	1	1	1	0	0	1	6
Playing on Roadway	3	1	1	0	0	0	0	0	0	0	0	5
Working on Roadway	0	0	0	0	1	0	0	0	0	0	0	1
Lying on Roadway	0	0	0	0	0	2	0	0	0	0	0	2
Unknown	6	18	23	12	15	12	25	17	11	26	76	241
Other	0	0	0	1	0	0	0	0	0	0	0	1
Total	18	45	53	35	31	34	57	45	31	49	127	525
%	3.4	8.6	10.1	6.6	5.9	6.5	10.9	8.6	5.9	9.3	24.2	100.0

Among all pedestrian casualties aged 15 and older, the two most frequently reported pedestrian actions prior to being struck by a motor vehicle were "crossing at intersections with right-of-way" and "crossing roadway between intersections". "Crossing, with right-of-way", "crossing at intersection without right-of-way" and "crossing roadway between intersections" were cited most often for pedestrians 65 years of age and older.

Younger pedestrians had actions *considerably different* from those reported for the older pedestrians. Among pedestrians four years of age and younger, the most frequently cited pedestrian actions were "running into roadway", and "playing on roadway". Of the total 5-9 and 10-14 year old pedestrians, "running into the roadway", "crossing roadway between intersections" and "crossing at intersections with right-of-way" were the most frequently reported actions.

Section 7

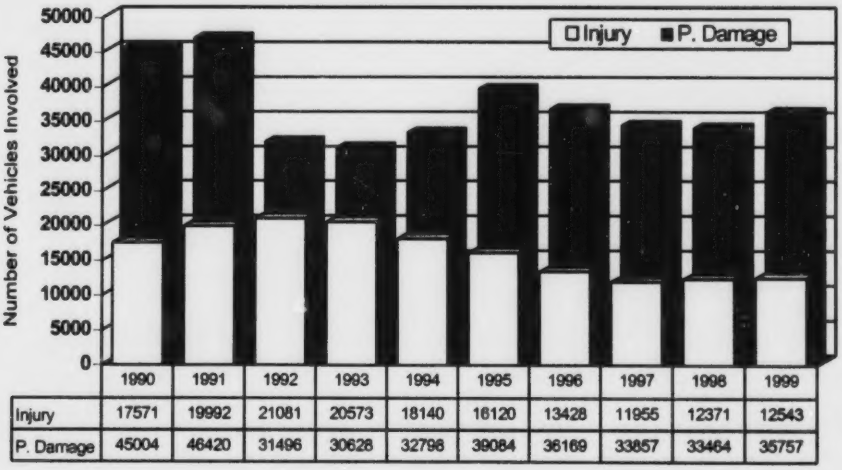
Vehicle Involvement

Ten Year Summary
1990 – 1999

Year	Collision Type			Total
	Fatal	Injury	P. Damage	
1990	162	17571	45004	62737
1991	153	19992	46420	66565
1992	164	21081	31496	52741
1993	161	20573	30628	51362
1994	161	18140	32798	51099
1995	188	16120	39084	55392
1996	115	13428	36169	49712
1997	147	11955	33857	45959
1998	170	12371	33464	46005
1999	157	12543	35757	48457

Between 1998 and 1999 the number of vehicles involved in fatal traffic collisions dropped by 7.6%, from 170 to 157. The number of vehicles involved in injury collisions increased by 1.4% from 12,371 in 1998 to 12,543 in 1999. Vehicles involved in property damage collisions increased by 6.8% from 33,464 in 1998 to 35,757 in 1999.

Ten Year Summary
Vehicle Involvement by Injury and Property Damage Collision Type
1990 – 1999*



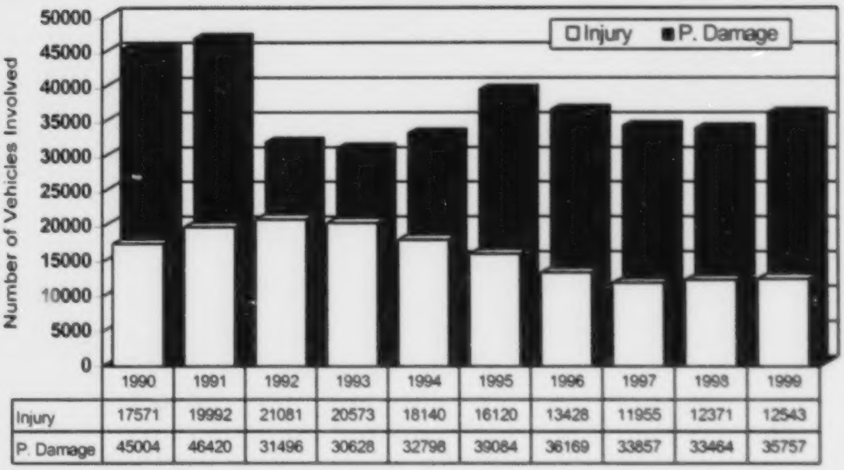
*Fatal statistics not shown due to low values.

Ten Year Summary
1990 – 1999

Year	Collision Type			Total
	Fatal	Injury	P. Damage	
1990	162	17571	45004	62737
1991	153	19992	46420	66565
1992	164	21081	31496	52741
1993	161	20573	30628	51362
1994	161	18140	32798	51099
1995	188	16120	39084	55392
1996	115	13428	36169	49712
1997	147	11955	33857	45959
1998	170	12371	33464	46005
1999	157	12543	35757	48457

Between 1998 and 1999 the number of vehicles involved in fatal traffic collisions dropped by 7.6%, from 170 to 157. The number of vehicles involved in injury collisions increased by 1.4% from 12,371 in 1998 to 12,543 in 1999. Vehicles involved in property damage collisions increased by 6.8% from 33,464 in 1998 to 35,757 in 1999.

Ten Year Summary
Vehicle Involvement by Injury and Property Damage Collision Type
1990 – 1999*



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Injury	17571	19992	21081	20573	18140	16120	13428	11955	12371	12543
P. Damage	45004	46420	31496	30628	32798	39084	36169	33857	33464	35757

*Fatal statistics not shown due to low values.

By Vehicle Type and Collision Type
1999

Vehicle Type	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Automobile	80	8691	24221	32992	68.1
Mini/Multi-Purpose Van	11	1088	3058	4157	8.6
Van under 4500 kg	5	298	899	1202	2.5
Pick-up under 4500 kg	32	1557	5864	7453	15.4
Truck over 4500 kg (unit chassis)	5	131	451	587	1.2
Power Unit for Semi-Trailer	12	121	375	508	1.0
Truck/Camper	0	8	19	27	0.1
Motorhome	1	3	26	30	0.1
Truck (other)	3	164	509	676	1.4
School Bus	0	8	44	52	0.1
Other School Vehicle	0	0	0	0	0.0
Transit Bus – urban	1	12	34	47	0.1
Para-transit Bus	0	0	3	3	-.-
Intercity Bus	0	36	53	89	0.2
Bus (other)	0	0	12	12	-.-
Motorcycle/Scooter	3	89	37	129	0.3
Moped	0	0	0	0	0.0
Bicycle	1	281	19	301	0.6
Ambulance	0	8	14	22	-.-
Fire	0	5	9	14	-.-
Police	0	12	33	45	0.1
Mobility Vehicle	0	0	2	2	-.-
Snow Vehicle	0	0	1	1	-.-
Farm Equipment	1	12	21	34	0.1
Construction Equipment	0	9	48	57	0.1
Train/Other Rail Vehicle	0	0	0	0	0.0
Off-Road Vehicle	2	10	5	17	-.-
Total	157	12543	35757	48457	100.0

Passenger cars, vans and pick-up trucks were involved in 81.5% of the total number of fatal collisions, 92.7% of the injury collisions and 95.2% of the property damage collisions. Passenger cars were involved in considerably more injury collisions (69.3%) than fatal crashes (51.0%). Conversely, a higher percentage of light trucks/vans were involved in fatal collisions (30.6%) than in injury collisions, at 23.5%. Heavy trucks/tractor trailers were involved in fatal crashes five times often than in injury collisions (10.8% versus 2.0%).

By Hazardous Load Type and Collision Type
1999

Hazardous Load	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Explosives	1	3	13	17	-.-
Flammable Gas	0	9	24	33	0.1
Flammable/Combustible Liquids	1	9	13	23	-.-
Flammable Solids/Dangerous When Wet	0	1	2	3	-.-
Oxidizers/Organic Peroxides	0	0	1	1	-.-
Poisonous Substances/Infectious	0	1	4	5	-.-
Radioactives	0	0	1	1	-.-
Corrosives	0	1	3	4	.-.
Miscellaneous Dangerous Substances	0	2	5	7	-.-
General Cargo (non-hazardous)	6	117	308	431	0.9
Empty	3	43	125	171	0.4
Not Applicable	146	12322	35162	47630	98.3
Other	0	0	1	1	-.-
Unknown	0	35	95	130	0.3
Total	157	12543	35757	48457	100.0

Of the total number of vehicles involved in traffic accidents, 94 were carrying "hazardous goods". Two of the 94 vehicles were involved in fatal collisions, 26 resulted in injury collisions, and 66 resulted in property damage collisions.

By Vehicle Type and Collision Type
1999

Vehicle Type	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Automobile	80	8691	24221	32992	68.1
Mini/Multi-Purpose Van	11	1088	3058	4157	8.6
Van under 4500 kg	5	298	899	1202	2.5
Pick-up under 4500 kg	32	1557	5864	7453	15.4
Truck over 4500 kg (unit chassis)	5	131	451	587	1.2
Power Unit for Semi-Trailer	12	121	375	508	1.0
Truck/Camper	0	8	19	27	0.1
Motorhome	1	3	26	30	0.1
Truck (other)	3	164	509	676	1.4
School Bus	0	8	44	52	0.1
Other School Vehicle	0	0	0	0	0.0
Transit Bus – urban	1	12	34	47	0.1
Para-transit Bus	0	0	3	3	-.-
Intercity Bus	0	36	53	89	0.2
Bus (other)	0	0	12	12	-.-
Motorcycle/Scooter	3	89	37	129	0.3
Moped	0	0	0	0	0.0
Bicycle	1	281	19	301	0.6
Ambulance	0	8	14	22	-.-
Fire	0	5	9	14	-.-
Police	0	12	33	45	0.1
Mobility Vehicle	0	0	2	2	-.-
Snow Vehicle	0	0	1	1	-.-
Farm Equipment	1	12	21	34	0.1
Construction Equipment	0	9	48	57	0.1
Train/Other Rail Vehicle	0	0	0	0	0.0
Off-Road Vehicle	2	10	5	17	-.-
Total	157	12543	35757	48457	100.0

Passenger cars, vans and pick-up trucks were involved in 81.5% of the total number of fatal collisions, 92.7% of the injury collisions and 95.2% of the property damage collisions. Passenger cars were involved in considerably more injury collisions (69.3%) than fatal crashes (51.0%). Conversely, a higher percentage of light trucks/vans were involved in fatal collisions (30.6%) than in injury collisions, at 23.5%. Heavy trucks/tractor trailers were involved in fatal crashes five times often than in injury collisions (10.8% versus 2.0%).

By Hazardous Load Type and Collision Type
1999

Hazardous Load	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Explosives	1	3	13	17	-.-
Flammable Gas	0	9	24	33	0.1
Flammable/Combustible Liquids	1	9	13	23	-.-
Flammable Solids/Dangerous When Wet	0	1	2	3	-.-
Oxidizers/Organic Peroxides	0	0	1	1	-.-
Poisonous Substances/Infectious	0	1	4	5	-.-
Radioactives	0	0	1	1	-.-
Corrosives	0	1	3	4	.-.
Miscellaneous Dangerous Substances	0	2	5	7	-.-
General Cargo (non-hazardous)	6	117	308	431	0.9
Empty	3	43	125	171	0.4
Not Applicable	146	12322	35162	47630	98.3
Other	0	0	1	1	-.-
Unknown	0	35	95	130	0.3
Total	157	12543	35757	48457	100.0

Of the total number of vehicles involved in traffic accidents, 94 were carrying "hazardous goods". Two of the 94 vehicles were involved in fatal collisions, 26 resulted in injury collisions, and 66 resulted in property damage collisions.

Section 8

Driver Involvement

M121

IMPORTANT NOTE CONCERNING THE FOLLOWING PAGES

THE PAGES WHICH FOLLOW HAVE BEEN FILMED TWICE IN ORDER TO OBTAIN THE BEST REPRODUCTIVE QUALITY

USERS SHOULD CONSULT ALL THE PAGES REPRODUCED ON THE FICHE IN ORDER TO OBTAIN A COMPLETE READING OF THE TEXT.

REMARQUE IMPORTANTE CONCERNANT LES PAGES QUI SUIVENT

LES PAGES SUIVANTES ONT ÉTÉ REPRODUITES EN DOUBLE AFIN D'AMÉLIORER LA QUALITÉ DE REPRODUCTION

LES UTILISATEURS DOIVENT CONSULTER TOUTES LES PAGES REPRODUITES SUR LA FICHE AFIN D'OBTENIR LA LECTURE DU TEXTE INTÉGRAL

micromedia
a division of IHS Canada

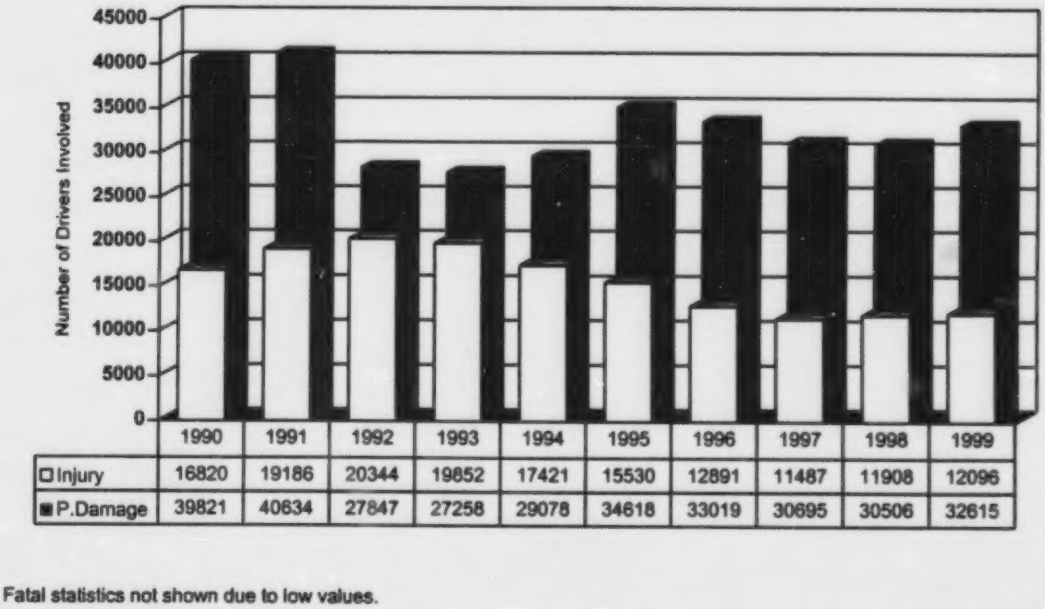
20 Victoria Street
Toronto, Ontario M5C 2N8
Tel.: (416) 362-5211
Toll Free: 1-800-387-2689
Fax: (416) 362-6161
Email: info@micromedia.on.ca

Ten Year Summary
1990 – 1999

Year	Collision Type			Total
	Fatal	Injury	P. Damage	
1990	153	16820	39821	56794
1991	145	19186	40634	59965
1992	152	20344	27847	48343
1993	150	19852	27258	47260
1994	152	17421	29078	46651
1995	171	15530	34618	50319
1996	110	12891	33019	46020
1997	142	11487	30695	42324
1998	164	11908	30506	42578
1999	151	12096	32615	44862

There were 151 drivers involved in fatal accidents in 1999, a decrease of 7.9% from the 164 involved in 1998. The number of drivers involved in injury collisions increased by 1.6% from 11,908 in 1998 to 12,096 in 1999. Drivers involved in property damage collisions increased by 6.9% from 30,506 in 1998 to 32,615 in 1999.

Ten Year Summary of Driver Involvement in Traffic Collisions by Injury and Property Damage Collision Type
1990 – 1999*



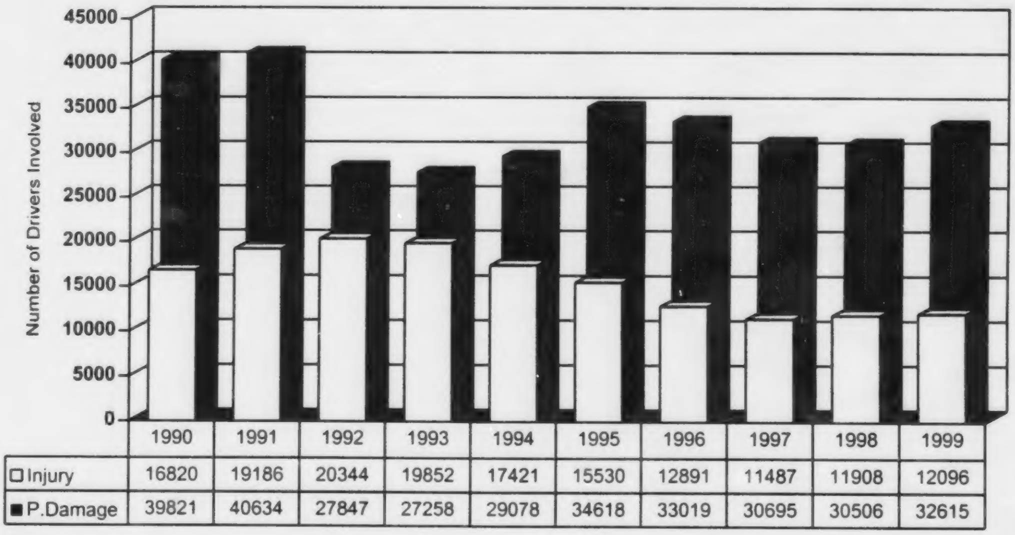
* Fatal statistics not shown due to low values.

Ten Year Summary
1990 – 1999

Year	Collision Type			Total
	Fatal	Injury	P. Damage	
1990	153	16820	39821	56794
1991	145	19186	40634	59965
1992	152	20344	27847	48343
1993	150	19852	27258	47260
1994	152	17421	29078	46651
1995	171	15530	34618	50319
1996	110	12891	33019	46020
1997	142	11487	30695	42324
1998	164	11908	30506	42578
1999	151	12096	32615	44862

There were 151 drivers involved in fatal accidents in 1999, a decrease of 7.9% from the 164 involved in 1998. The number of drivers involved in injury collisions increased by 1.6% from 11,908 in 1998 to 12,096 in 1999. Drivers involved in property damage collisions increased by 6.9% from 30,506 in 1998 to 32,615 in 1999.

Ten Year Summary of Driver Involvement in Traffic Collisions by Injury and Property Damage Collision Type
1990 – 1999*



* Fatal statistics not shown due to low values.

By Age Group, Sex, and Collision Type
1999

Age Group	Sex	Collision Type						Total	%
		Fatal	%	Injury	%	P. Damage	%		
<16	M	1		21		41		63	
	F	0		11		23		34	
	NS	0		1		4		5	
	Total	1	0.7	33	0.3	68	0.2	102	0.2
16-19	M	12		754		2380		3146	
	F	6		580		1252		1838	
	NS	0		88		271		359	
	Total	18	11.9	1422	11.8	3903	12.0	5343	11.9
20-24	M	13		752		2134		2899	
	F	4		581		1105		1690	
	NS	0		83		336		419	
	Total	17	11.3	1416	11.7	3575	11.0	5008	11.2
25-34	M	24		1177		3114		4315	
	F	4		926		1741		2671	
	NS	0		145		486		631	
	Total	28	18.5	2248	18.6	5341	16.4	7617	17.1
35-44	M	21		1253		3322		4596	
	F	7		954		1938		2899	
	NS	0		122		472		594	
	Total	28	18.5	2329	19.2	5732	17.5	8089	18.0
45-54	M	14		920		2558		3492	
	F	5		678		1458		2141	
	NS	0		89		349		438	
	Total	19	12.6	1687	14.0	4365	13.4	6071	13.5
55-64	M	10		507		1604		2121	
	F	10		330		732		1072	
	NS	0		37		153		190	
	Total	20	13.2	874	7.2	2489	7.6	3383	7.5
65-74	M	5		328		1015		1348	
	F	6		170		453		629	
	NS	0		17		80		97	
	Total	11	7.3	515	4.3	1548	4.7	2074	4.6
75>	M	9		239		632		880	
	F	0		89		278		367	
	NS	0		17		67		84	
	Total	9	6.0	345	2.8	977	3.0	1331	3.0
Not Stated	M	0		353		1155		1508	
	F	0		146		544		690	
	NS	0		728		2918		3646	
	Total	0	0.0	1227	10.1	4617	14.2	5844	13.0
All Ages	M	109		6304		17955		24368	
	F	42		4465		9524		14031	
	NS	0		1327		5136		6463	
	Total	151	100.0	12096	100.0	32615	100.0	44862	100.0

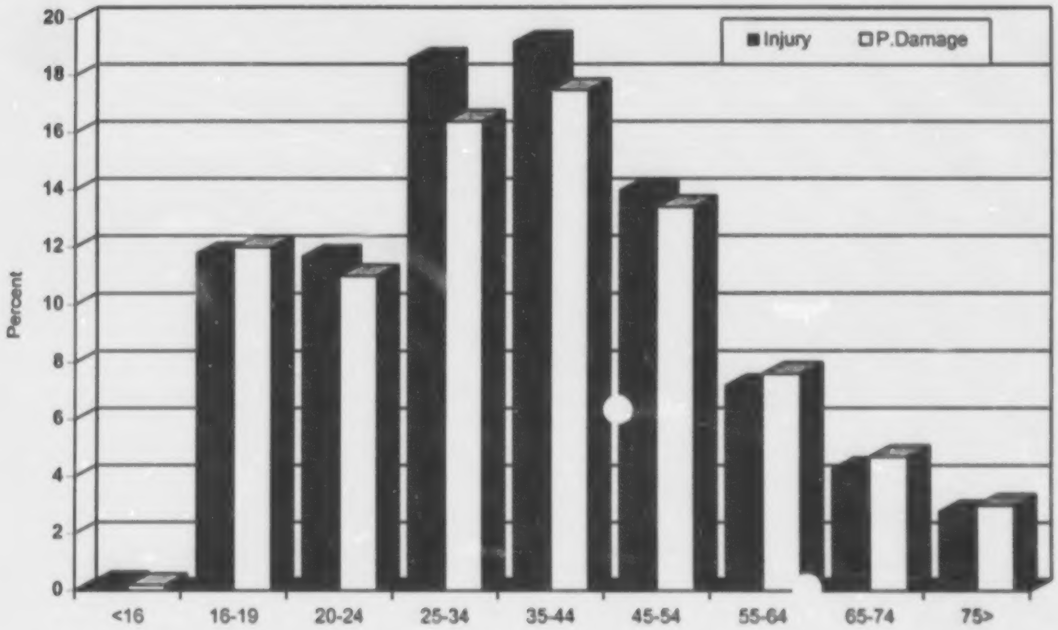
Male drivers were involved in collisions more often than their female counterparts – approximately 2½ times more frequently in fatal collisions, approximately 1½ more times in injury collisions and approximately 2 times more frequently in property damage collisions.

By Age Group, Sex, and Collision Type
1999

Age Group	Sex	Collision Type						Total	%
		Fatal	%	Injury	%	P. Damage	%		
<16	M	1		21		41		63	
	F	0		11		23		34	
	NS	0		1		4		5	
	Total	1	0.7	33	0.3	68	0.2	102	0.2
16-19	M	12		754		2380		3146	
	F	6		580		1252		1838	
	NS	0		88		271		359	
	Total	18	11.9	1422	11.8	3903	12.0	5343	11.9
20-24	M	13		752		2134		2899	
	F	4		581		1105		1690	
	NS	0		83		336		419	
	Total	17	11.3	1416	11.7	3575	11.0	5008	11.2
25-34	M	24		1177		3114		4315	
	F	4		926		1741		2671	
	NS	0		145		486		631	
	Total	28	18.5	2248	18.6	5341	16.4	7617	17.1
35-44	M	21		1253		3322		4596	
	F	7		954		1938		2899	
	NS	0		122		472		594	
	Total	28	18.5	2329	19.2	5732	17.5	8089	18.0
45-54	M	14		920		2558		3492	
	F	5		678		1458		2141	
	NS	0		89		349		438	
	Total	19	12.6	1687	14.0	4365	13.4	6071	13.5
55-64	M	10		507		1604		2121	
	F	10		330		732		1072	
	NS	0		37		153		190	
	Total	20	13.2	874	7.2	2489	7.6	3383	7.5
65-74	M	5		328		1015		1348	
	F	6		170		453		629	
	NS	0		17		80		97	
	Total	11	7.3	515	4.3	1548	4.7	2074	4.6
75>	M	9		239		632		880	
	F	0		89		278		367	
	NS	0		17		67		84	
	Total	9	6.0	345	2.8	977	3.0	1331	3.0
Not Stated	M	0		353		1155		1508	
	F	0		146		544		690	
	NS	0		728		2918		3646	
	Total	0	0.0	1227	10.1	4617	14.2	5844	13.0
All Ages	M	109		6304		17955		24368	
	F	42		4465		9524		14031	
	NS	0		1327		5136		6463	
	Total	151	100.0	12096	100.0	32615	100.0	44862	100.0

Male drivers were involved in collisions more often than their female counterparts – approximately 2½ times more frequently in fatal collisions, approximately 1½ more times in injury collisions and approximately 2 times more frequently in property damage collisions.

Comparison of Driver Involvement in Traffic Collisions
by Age Group* and Collision Type
1999



* Not stated category not shown.

Overall, the age group 35-44 accounted for 18.0% (8089) of the total number of drivers involved in traffic collisions, followed by the 25-34 age group which accounted for 17.1% (7617). Of the total drivers involved in traffic collisions, the age groups 35-44 and 25-34 had the highest involvement rates in injury and property damage collisions.

By Age Group, Sex and Relative Involvement /1,000 Drivers
1999

Age Group	Sex	Total Drivers Involved	%	Total Active Licenced Drivers	%	Relative Involvement Rate /1,000
<16	M	63		0		
	F	34		0		
	NS	5		0		
	Total	102	0.2	0		
16-19	M	3146		22401		140
	F	1838		20644		89
	NS	359		0		
	Total	5343	11.9	43045	6.4	124
20-24	M	2899		28003		104
	F	1690		26877		63
	NS	419		0		
	Total	5008	11.2	54880	8.2	91
25-34	M	4315		61054		71
	F	2671		58419		46
	NS	631		0		
	Total	7617	17.1	119473	17.8	64
35-44	M	4596		78751		58
	F	2899		74589		39
	NS	594		0		
	Total	8089	18.0	153340	22.8	53
45-54	M	3492		66734		52
	F	2141		62352		34
	NS	438		0		
	Total	6071	13.5	129086	19.2	47
55-64	M	2121		42764		50
	F	1072		37319		29
	NS	190		0		
	Total	3383	7.5	80083	11.9	42
65-74	M	1348		31793		42
	F	629		26331		24
	NS	97		0		
	Total	2074	4.6	58124	8.6	36
75>	M	880		19714		45
	F	367		15079		24
	NS	84		0		
	Total	1331	3.0	34793	5.1	38
Not Stated	M	1508		0		
	F	690		0		
	NS	3646		0		
	Total	5844	13.0	0	0.0	
All Ages	M	24368		351214		69
	F	14031		321610		44
	NS	6463		0		
	Total	44862	100.0	672824	100.0	67

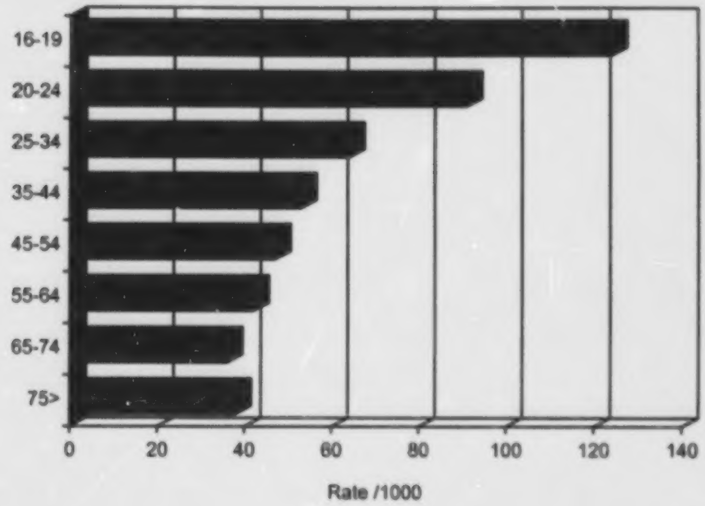
Certain age groups have higher involvement rates than other age groups. For example, drivers in the age group 16-19 made up 6.4% of the total active licenced drivers, yet accounted for 11.9% of the total drivers involved in traffic collisions. In contrast, drivers over 55 years of age made up 25.6% of the total active licenced drivers, but comprised only 15.1% of the total drivers involved in traffic accidents. Drivers between the ages of 20 and 54 made up 67.9% of the total active licenced drivers, yet accounted for 59.8% of the drivers involved in traffic accidents.

By Age Group, Sex and Relative Involvement /1,000 Drivers
1999

Age Group	Sex	Total Drivers Involved	%	Total Active Licenced Drivers	%	Relative Involvement Rate /1,000
<16	M	63		0		
	F	34		0		
	NS	5		0		
	Total	102	0.2	0		
16-19	M	3146		22401		140
	F	1838		20644		89
	NS	359		0		
	Total	5343	11.9	43045	6.4	124
20-24	M	2899		28003		104
	F	1690		26877		63
	NS	419		0		
	Total	5008	11.2	54880	8.2	91
25-34	M	4315		61054		71
	F	2671		58419		46
	NS	631		0		
	Total	7617	17.1	119473	17.8	64
35-44	M	4596		78751		58
	F	2899		74589		39
	NS	594		0		
	Total	8089	18.0	153340	22.8	53
45-54	M	3492		66734		52
	F	2141		62352		34
	NS	438		0		
	Total	6071	13.5	129086	19.2	47
55-64	M	2121		42764		50
	F	1072		37319		29
	NS	190		0		
	Total	3383	7.5	80083	11.9	42
65-74	M	1348		31793		42
	F	629		26331		24
	NS	97		0		
	Total	2074	4.6	58124	8.6	36
75>	M	880		19714		45
	F	367		15079		24
	NS	84		0		
	Total	1331	3.0	34793	5.1	38
Not Stated	M	1508		0		
	F	690		0		
	NS	3646		0		
	Total	5844	13.0	0	0.0	
All Ages	M	24368		351214		69
	F	14031		321610		44
	NS	6463		0		
	Total	44862	100.0	672824	100.0	67

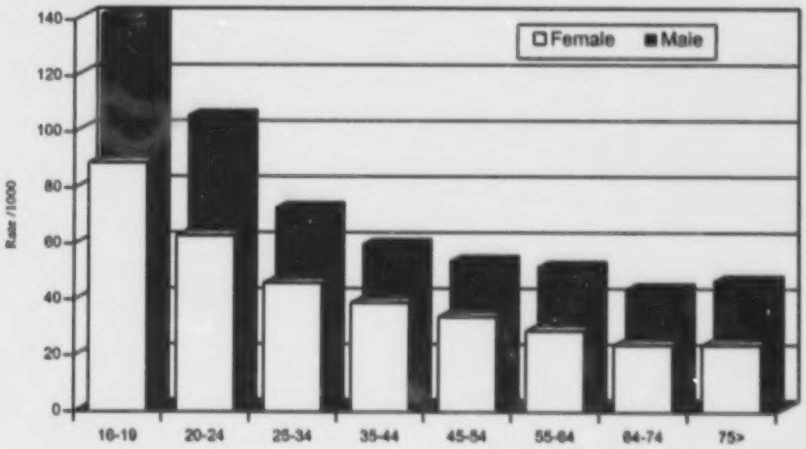
Certain age groups have higher involvement rates than other age groups. For example, drivers in the age group 16-19 made up 6.4% of the total active licenced drivers, yet accounted for 11.9% of the total drivers involved in traffic collisions. In contrast, drivers over 55 years of age made up 25.6% of the total active licenced drivers, but comprised only 15.1% of the total drivers involved in traffic accidents. Drivers between the ages of 20 and 54 made up 67.9% of the total active licenced drivers, yet accounted for 59.8% of the drivers involved in traffic accidents.

Distribution of Driver Involvement in Traffic Collisions by Age Group and Relative Involvement /1,000 Drivers 1999



The 16-19 age group had the highest relative involvement rate at 124/1,000 followed by the 20-24 age group with a rate of 91/1,000. The lowest relative involvement rate belongs to the 65-74 group, 36/1,000 drivers. The overall relative involvement rate for all age groups in 1999 was 67/1,000. *These relative involvement rates do not take into consideration the number of vehicle kilometres travelled by each age group.*

Comparison of Relative Involvement Rates /1,000 Drivers by Age Group and Sex 1999



The above graph illustrates male drivers have higher relative involvement rates than their female counterparts. For example, males in the 16-19 age group have the highest relative involvement rate, 140/1,000, whereas females in the same age group have a relative involvement rate of only 89/1,000. Drivers in the 65-74 age group have the lowest relative involvement rates, male rate of 42/1,000 compared to the female rate of 24/1,000.

Section 9

Environmental

Driver Action

Human Condition

Contributing Factors

Driver Involvement in Traffic Collisions by Driver Action and Collision Type
1999

Driver Action	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Driving Properly[1]	96	9795	27517	37408	83.4
Follow Too Closely	1	291	556	848	1.9
Turn Improperly	1	166	468	635	1.4
Exceed Speed Limit	7	51	71	129	0.3
Drive Too Fast For Conditions	8	240	635	883	2.0
Unsafe Speed (too fast or too slow)	2	31	75	108	0.2
Passing Improperly	1	33	65	99	0.2
Change Lanes Improperly	0	57	215	272	0.6
Fail to Yield	10	482	856	1348	3.0
Disobeyed Traffic Control	6	272	307	585	1.3
Drive Wrong Way	0	12	16	28	0.1
Pass Vehicle at Pedestrian X-Walk	0	6	0	6	-.-
Backing Up Unsafely	2	36	581	619	1.4
Park Improperly	0	8	55	63	0.1
Careless Driving	2	134	253	389	0.9
Lost Control/off Roadway	11	206	349	566	1.3
Driverless Vehicle	0	3	8	11	-.-
Leave Stop Sign	2	102	187	291	0.7
Fail To Signal	0	3	17	20	-.-
Take Avoiding Action	1	58	148	207	0.5
Driver Inexperience	0	102	229	331	0.7
Pedestrian Error/Confusion	1	8	7	16	-.-
Total	151	12096	32615	44862	100.0

[1] No apparent improper driving action noted on traffic accident report.

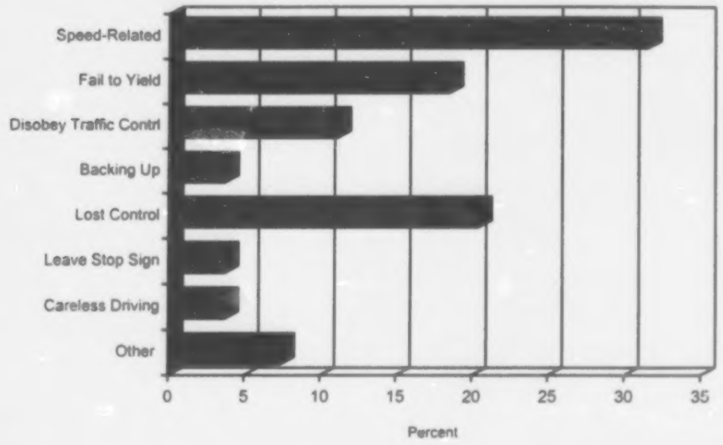
Driver Involvement in Traffic Collisions by Driver Action and Collision Type
1999

Driver Action	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Driving Properly[1]	96	9795	27517	37408	83.4
Follow Too Closely	1	291	556	848	1.9
Turn Improperly	1	166	468	635	1.4
Exceed Speed Limit	7	51	71	129	0.3
Drive Too Fast For Conditions	8	240	635	883	2.0
Unsafe Speed (too fast or too slow)	2	31	75	108	0.2
Passing Improperly	1	33	65	99	0.2
Change Lanes Improperly	0	57	215	272	0.6
Fail to Yield	10	482	856	1348	3.0
Disobeyed Traffic Control	6	272	307	585	1.3
Drive Wrong Way	0	12	16	28	0.1
Pass Vehicle at Pedestrian X-Walk	0	6	0	6	-.-
Backing Up Unsafely	2	36	581	619	1.4
Park Improperly	0	8	55	63	0.1
Careless Driving	2	134	253	389	0.9
Lost Control/off Roadway	11	206	349	566	1.3
Driverless Vehicle	0	3	8	11	-.-
Leave Stop Sign	2	102	187	291	0.7
Fail To Signal	0	3	17	20	-.-
Take Avoiding Action	1	58	148	207	0.5
Driver Inexperience	0	102	229	331	0.7
Pedestrian Error/Confusion	1	8	7	16	-.-
Total	151	12096	32615	44862	100.0

---

[1] No apparent improper driving action noted on traffic accident report.

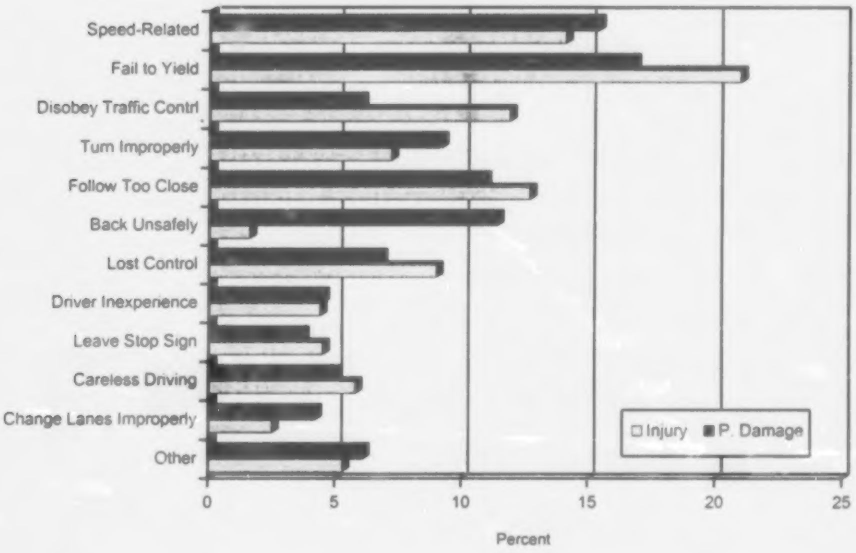
Comparison of Selected[1] At-Fault Driver Actions in Fatal Traffic Collisions 1999



*Other includes follow too closely, turn improperly, pass improperly and talking avoiding action.

Among at-fault drivers involved in fatal collisions, the most common reported infractions were "speed related" (31.5%), "lost control" (20.4%) and "fail to yield" (18.5%).

Comparison of Selected[1] At-Fault Driver Actions (Injury /Property Damage) 1999



[1] Speed-related includes exceeding speed limit, drive too fast for conditions and unsafe operating speed. Changing lanes improperly includes fail to signal. Other includes park and pass improperly, drive wrong way, pass vehicle at pedestrian x-walk, driverless vehicle, pedestrian error and taking avoiding action.

The three main at-fault driver actions resulting in injuries were "failure to yield" (21.0% or 482), "speed-related" (14.1% or 322), and "follow too closely" (12.7% or 291).

Driver Involvement in Fatal Traffic Collisions
by Driver Action and Age Group
1999

Driver Action	Age Group										Total
	<16	16-19	20-24	25-34	35-44	45-54	55-64	65-74	75>	NS	
Drive Properly	0	5	12	20	20	16	14	3	6	0	96
Follow Too Closely	0	0	0	0	0	0	0	1	0	0	1
Turn Improperly	0	0	0	0	0	0	0	1	0	0	1
Exceed Speed Limit	0	3	2	0	1	0	0	1	0	0	7
Drive Too Fast	0	3	0	1	2	1	1	0	0	0	8
Unsafe Speed	0	1	0	1	0	0	0	0	0	0	2
Passing Improperly	0	0	0	1	0	0	0	0	0	0	1
Change Lanes Improperly	0	0	0	0	0	0	0	0	0	0	0
Fail to Yield	0	2	0	1	2	0	2	2	1	0	10
Disobey Traffic Control	0	0	1	2	1	0	1	0	1	0	6
Drive Wrong Way	0	0	0	0	0	0	0	0	0	0	0
Pass at Pedestrian Corridor	0	0	0	0	0	0	0	0	0	0	0
Backing Up Unsafely	0	1	0	0	0	0	1	0	0	0	2
Park Improperly	0	0	0	0	0	0	0	0	0	0	0
Careless Driving	1	0	0	1	0	0	0	0	0	0	2
Lost Control/off Roadway	0	3	1	1	1	2	1	1	1	0	11
Driverless Vehicle	0	0	0	0	0	0	0	0	0	0	0
Leave Stop Sign	0	0	0	0	0	0	0	2	0	0	2
Fail to Signal	0	0	0	0	0	0	0	0	0	0	0
Take Avoiding Action	0	0	1	0	0	0	0	0	0	0	1
Driver Inexperience	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Error/Confusion	0	0	0	0	1	0	0	0	0	0	1
Total	1	18	17	28	28	19	20	11	9	0	151
At-fault rate/10,000 active licenced drivers	-.-	3.0	0.9	0.7	0.5	0.2	0.7	1.4	0.9	0.0	0.8

Of the total *at-fault drivers* involved in fatal collisions, the age group 16-19 recorded the highest rate of driver infractions at 3.0/10,000 active licenced drivers, followed by 65-74 age group at 1.4/10,000.

Certain age group displayed *different* at-fault fatal involvement. “Exceed speed limit”, “drive too fast for conditions”, and “lost control/drove off roadway” each accounted for 23.1% of the primary at-fault driver actions in the 16-19 year age group. “Fail to yield “ and “leave stop sign before safe to do so” were the primary at-fault driver infractions in the 65 and over age groups.

Driver Involvement in Fatal Traffic Collisions
by Driver Action and Age Group
1999

Driver Action	Age Group										Total
	<16	16-19	20-24	25-34	35-44	45-54	55-64	65-74	75>	NS	
Drive Properly	0	5	12	20	20	16	14	3	6	0	96
Follow Too Closely	0	0	0	0	0	0	0	1	0	0	1
Turn Improperly	0	0	0	0	0	0	0	1	0	0	1
Exceed Speed Limit	0	3	2	0	1	0	0	1	0	0	7
Drive Too Fast	0	3	0	1	2	1	1	0	0	0	8
Unsafe Speed	0	1	0	1	0	0	0	0	0	0	2
Passing Improperly	0	0	0	1	0	0	0	0	0	0	1
Change Lanes Improperly	0	0	0	0	0	0	0	0	0	0	0
Fail to Yield	0	2	0	1	2	0	2	2	1	0	10
Disobey Traffic Control	0	0	1	2	1	0	1	0	1	0	6
Drive Wrong Way	0	0	0	0	0	0	0	0	0	0	0
Pass at Pedestrian Corridor	0	0	0	0	0	0	0	0	0	0	0
Backing Up Unsafely	0	1	0	0	0	0	1	0	0	0	2
Park Improperly	0	0	0	0	0	0	0	0	0	0	0
Careless Driving	1	0	0	1	0	0	0	0	0	0	2
Lost Control/off Roadway	0	3	1	1	1	2	1	1	1	0	11
Driverless Vehicle	0	0	0	0	0	0	0	0	0	0	0
Leave Stop Sign	0	0	0	0	0	0	0	2	0	0	2
Fail to Signal	0	0	0	0	0	0	0	0	0	0	0
Take Avoiding Action	0	0	1	0	0	0	0	0	0	0	1
Driver Inexperience	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Error/Confusion	0	0	0	0	1	0	0	0	0	0	1
Total	1	18	17	28	28	19	20	11	9	0	151
At-fault rate/10,000 active licenced drivers	-.-	3.0	0.9	0.7	0.5	0.2	0.7	1.4	0.9	0.0	0.8

Of the total *at-fault drivers* involved in fatal collisions, the age group 16-19 recorded the highest rate of driver infractions at 3.0/10,000 active licenced drivers, followed by 65-74 age group at 1.4/10,000.

Certain age group displayed *different* at-fault fatal involvement. "Exceed speed limit", "drive too fast for conditions", and "lost control/drove off roadway" each accounted for 23.1% of the primary at-fault driver actions in the 16-19 year age group. "Fail to yield " and "leave stop sign before safe to do so" were the primary at-fault driver infractions in the 65 and over age groups.

Driver Involvement in Injury and Property Damage Traffic Collisions
by Driver Action and Age Group
1999

Driver Action	Age Group										Total
	<16	16-19	20-24	25-34	35-44	45-54	55-64	65-74	75>	NS	
Drive Properly	39	3778	4012	6430	6999	5202	2874	1680	971	5327	37312
Follow Too Closely	1	158	146	135	140	90	50	26	19	82	847
Turn Improperly	2	103	71	87	108	67	57	45	42	52	634
Exceed Speed Limit	7	38	29	20	6	[illegible]	4	1	2	9	122
Drive Too Fast	9	229	140	159	122	88	47	16	14	51	875
Unsafe Speed	1	34	19	19	11	11	3	1	1	6	106
Passing Improperly	0	15	11	18	10	14	8	7	5	10	98
Change Lanes Improperly	0	46	34	37	38	32	18	16	20	31	272
Fail to Yield	1	191	128	193	209	179	109	99	112	117	1338
Disobey Traffic Control	0	76	76	103	85	75	50	49	29	36	579
Drive Wrong Way	0	3	2	6	5	1	4	2	2	3	28
Pass at Pedestrian Corridor	0	3	1	0	0	1	1	0	0	0	6
Backing Up Unsafely	4	114	71	96	91	96	49	37	18	41	617
Park Improperly	1	7	4	4	13	10	2	9	10	3	63
Careless Driving	6	73	62	70	51	47	13	10	12	43	387
Lost Control/off Roadway	11	150	86	104	79	53	34	16	15	7	555
Driverless Vehicle	0	1	1	1	2	3	3	0	0	0	11
Leave Stop Sign	0	52	22	40	37	30	20	34	40	14	289
Fail to Signal	0	2	4	3	4	6	0	0	0	1	20
Take Avoiding Action	0	38	32	38	34	30	13	12	7	2	206
Driver Inexperience	18	210	38	24	14	11	3	1	3	9	331
Pedestrian Error/Confusion	1	4	2	2	3	0	1	2	0	0	15
Total	101	5325	4991	7589	8061	6052	3363	2063	1322	5844	44711
At-fault rate/1,000 active licenced drivers	-.-	35.8	17.8	9.7	6.9	6.6	6.1	6.6	10.1	-.-	11.0

The age group 16-19 recorded the highest reported rate of driving infractions in injury and property damage collisions, at 35.8/1,000 active drivers, followed by 20-24 at 17.8/1,000 and 75 years and over at 10.1/1,000.

Certain age groups display *different* at-fault driver involvement patterns. "Drive too fast for conditions (14.8%), "driver inexperience" (13.6%) and "failed to yield" (12.4%) were the primary actions in the 16-19 year age group.

Elderly drivers were most likely to be involved in collisions involving comprehension errors, e.g. misunderstanding of signage. "Failing to yield" (28.8%), "turning improperly" (11.9%) and "disobeying traffic control device (10.7%) were the primary actions in the 65 and older age group.

Driver Involvement in Injury and Property Damage Traffic Collisions
by Driver Action and Age Group
1999

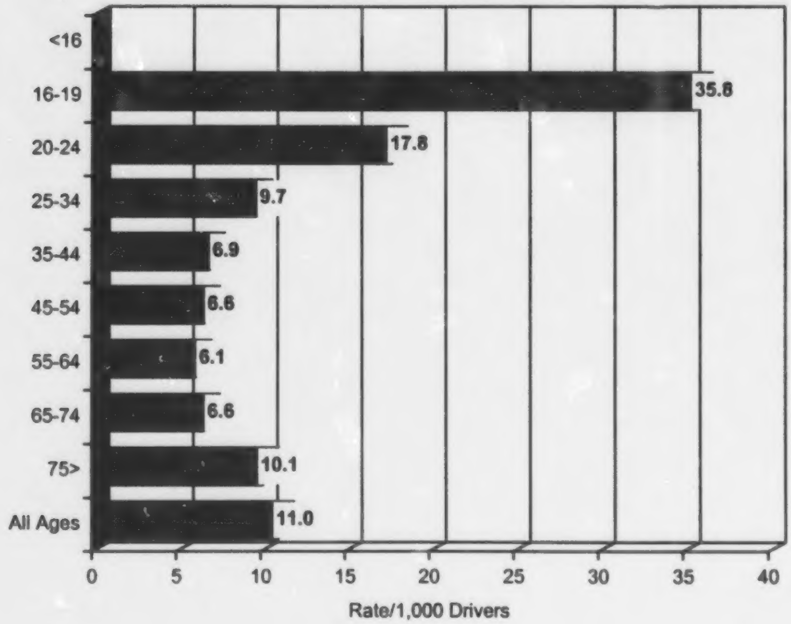
Driver Action	Age Group										Total
	<16	16-19	20-24	25-34	35-44	45-54	55-64	65-74	75>	NS	
Drive Properly	39	3778	4012	6430	6999	5202	2874	1680	971	5327	37312
Follow Too Closely	1	158	146	135	140	90	50	26	19	82	847
Turn Improperly	2	103	71	87	108	67	57	45	42	52	634
Exceed Speed Limit	7	38	29	20	6	6	4	1	2	9	122
Drive Too Fast	9	229	140	159	122	88	47	16	14	51	875
Unsafe Speed	1	34	19	19	11	11	3	1	1	6	106
Passing Improperly	0	15	11	18	10	14	8	7	5	10	98
Change Lanes Improperly	0	46	34	37	38	32	18	16	20	31	272
Fail to Yield	1	191	128	193	209	179	109	99	112	117	1338
Disobey Traffic Control	0	76	76	103	85	75	50	49	29	36	579
Drive Wrong Way	0	3	2	6	5	1	4	2	2	3	28
Pass at Pedestrian Corridor	0	3	1	0	0	1	1	0	0	0	6
Backing Up Unsafely	4	114	71	96	91	96	49	37	18	41	617
Park Improperly	1	7	4	4	13	10	2	9	10	3	63
Careless Driving	6	73	62	70	51	47	13	10	12	43	387
Lost Control/off Roadway	11	150	86	104	79	53	34	16	15	7	555
Driverless Vehicle	0	1	1	1	2	3	3	0	0	0	11
Leave Stop Sign	0	52	22	40	37	30	20	34	40	14	289
Fail to Signal	0	2	4	3	4	6	0	0	0	1	20
Take Avoiding Action	0	38	32	38	34	30	13	12	7	2	206
Driver Inexperience	18	210	38	24	14	11	3	1	3	9	331
Pedestrian Error/Confusion	1	4	2	2	3	0	1	2	0	0	15
Total	101	5325	4991	7589	8061	6052	3363	2063	1322	5844	44711
At-fault rate/1,000 active licenced drivers	-.-	35.8	17.8	9.7	6.9	6.6	6.1	6.6	10.1	-.-	11.0

The age group 16-19 recorded the highest reported rate of driving infractions in injury and property damage collisions, at 35.8/1,000 active drivers, followed by 20-24 at 17.8/1,000 and 75 years and over at 10.1/1,000.

Certain age groups display *different* at-fault driver involvement patterns. "Drive too fast for conditions (14.8%), "driver inexperience" (13.6%) and "failed to yield" (12.4%) were the primary actions in the 16-19 year age group.

Elderly drivers were most likely to be involved in collisions involving comprehension errors, e.g. misunderstanding of signage. "Failing to yield" (28.8%), "turning improperly" (11.9%) and "disobeying traffic control device (10.7%) were the primary actions in the 65 and older age group.

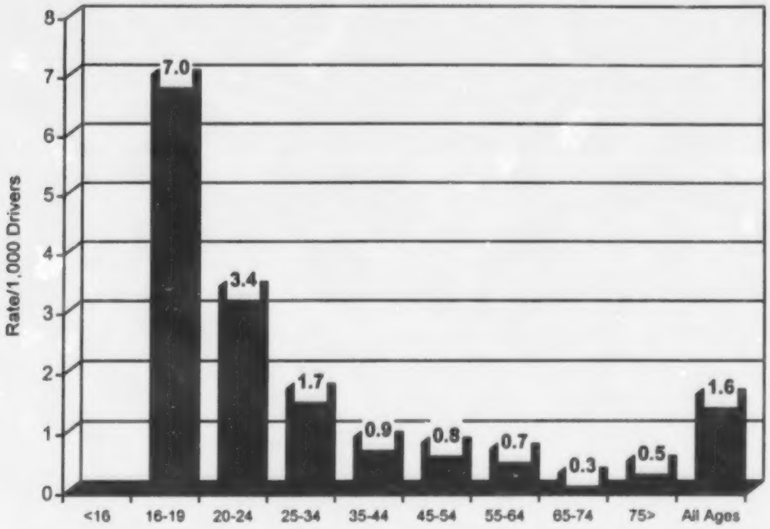
Rate of At-Fault Drivers by 1,000 Active Licenced Drivers and Age Group 1999



This graph illustrates that among the drivers committing infractions, the 16-19 and 20-24 age groups reported the highest at-fault incidence (35.8/1,000 and 17.8/1,000 respectively). The rate for drivers aged 16-24, at 25.7/1,000, is more than double the rate for all age groups taken together, at 11.0/1,000.

The lowest rates occurred among the age groups 35-44 (6.9/1,000), 45-54 (6.6/1,000), 55-64 (6.1/1,000), and 65-74 (6.6/1,000).

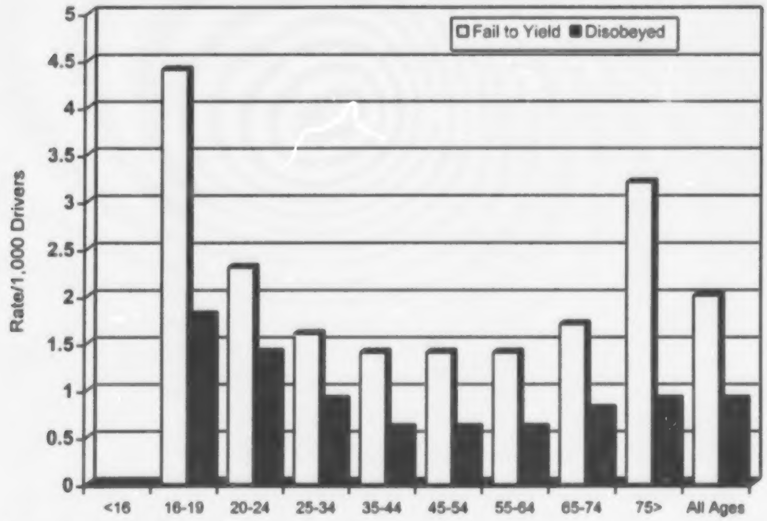
Speed-Related At-Fault Driver Actions by 1,000 Active Licenced Drivers
1999



Speed-related includes exceeding speed limit, drive too fast for conditions and unsafe operating speed.

Drivers in the 16-19 age group recorded the highest rate of at-fault speed-related driver actions, 4.5 times higher than all age groups (7.0/1,000 active licenced drivers versus 1.6/1,000 active licenced drivers).

Fail to Yield, Disobeyed Traffic Control Driver Action Per 1,000 Active Licenced Drivers
1999



Disobeyed traffic control device includes leave stop sign before safe to do so

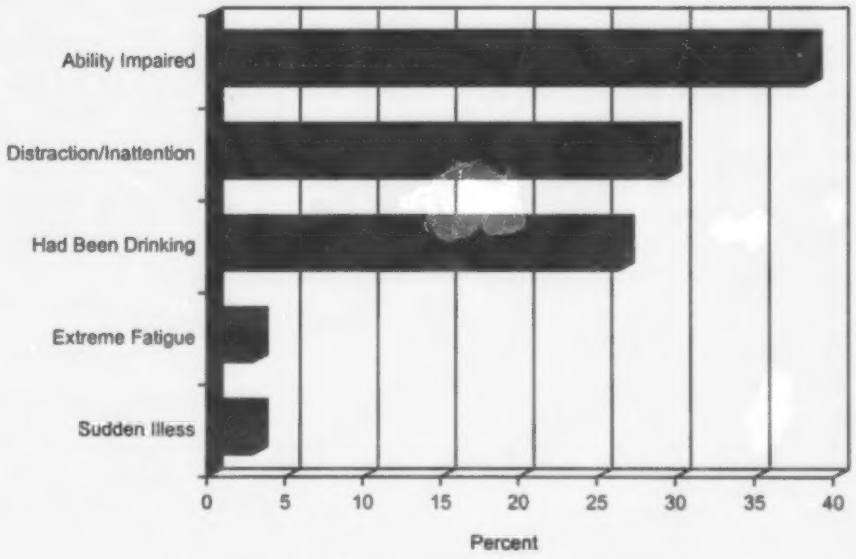
All at-fault ages for "fail to yield" infraction recorded an involvement rate of 2.0/1,000 active licenced drivers. Both the younger driver (16-19) and older driver (75+) incurred a higher rate of 4.4/1,000 and 3.2/1,000 respectively. All at-fault ages for "disobeyed traffic control" recorded an involvement rate of 0.9/1,000. The younger age groups, 16-19 and 20-24 incurred a higher involvement rate of 1.8/1,000 and 1.4/1,000 respectively.

Driver Involvement in Traffic Collisions by Human Condition and Collision Type
1999

Human Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Apparently Normal	117	11399	31427	42943	95.8
Loss of Consciousness	0	19	16	35	0.1
Extreme Fatigue/Fell Asleep	1	37	77	115	0.3
Defective Eyesight	0	5	10	15	-.-
Defective Hearing	0	1	8	9	-.-
Medical Disability	0	4	11	15	-.-
Physical Disability	0	4	8	12	-.-
Mental Disability	0	3	8	11	-.-
Mental Confusion/Unable to Remember	0	7	12	19	0.1
Sudden Illness	1	5	3	9	-.-
Ability Impaired by Alcohol	13	139	201	353	0.8
Ability Impaired by Drugs	0	3	3	6	-.-
Had Been Drinking/Suspected Alcohol Use[1]	9	55	79	143	0.3
Distraction/Inattention	10	414	750	1174	2.6
Exceed Hours of Service	0	1	2	3	-.-
Total	151	12096	32615	44862	100.0

1. These statistics are understated and represent only those collisions where alcohol involvement was apparent.

Comparison of At-Fault Human Condition Factors in Fatal Traffic Collisions
1999



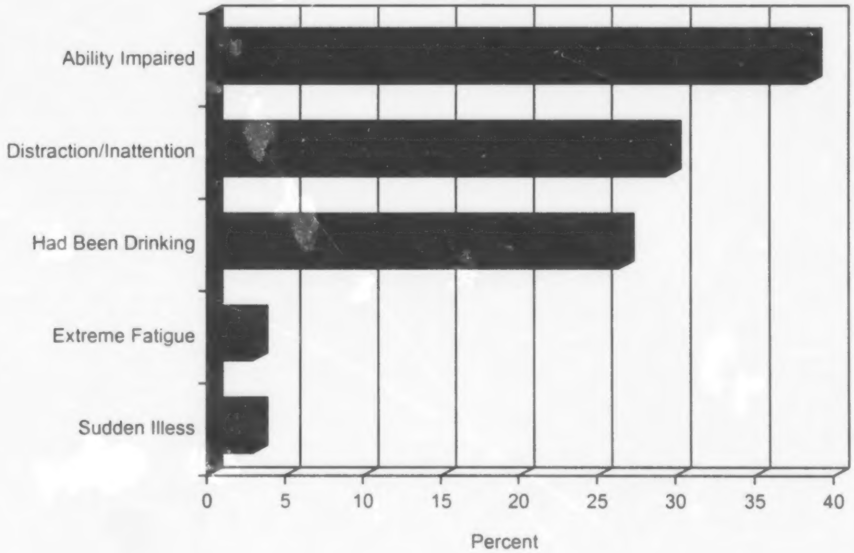
Among the at-fault drivers involved in fatal collisions, 64.7% were cited for having consumed alcohol. Of these at-fault drivers, 38.2% had their driving ability "impaired by alcohol", while 26.5% "had been drinking". After alcohol consumption, the most often reported driver condition among those involved in fatal crashes was "distraction/inattention" at 29.4%.

Driver Involvement in Traffic Collisions by Human Condition and Collision Type
1999

Human Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Apparently Normal	117	11399	31427	42943	95.8
Loss of Consciousness	0	19	16	35	0.1
Extreme Fatigue/Fell Asleep	1	37	77	115	0.3
Defective Eyesight	0	5	10	15	-.-
Defective Hearing	0	1	8	9	-.-
Medical Disability	0	4	11	15	-.-
Physical Disability	0	4	8	12	-.-
Mental Disability	0	3	8	11	-.-
Mental Confusion/Unable to Remember	0	7	12	19	0.1
Sudden Illness	1	5	3	9	-.-
Ability Impaired by Alcohol	13	139	201	353	0.8
Ability Impaired by Drugs	0	3	3	6	-.-
Had Been Drinking/Suspected Alcohol Use[1]	9	55	79	143	0.3
Distraction/Inattention	10	414	750	1174	2.6
Exceed Hours of Service	0	1	2	3	-.-
Total	151	12096	32615	44862	100.0

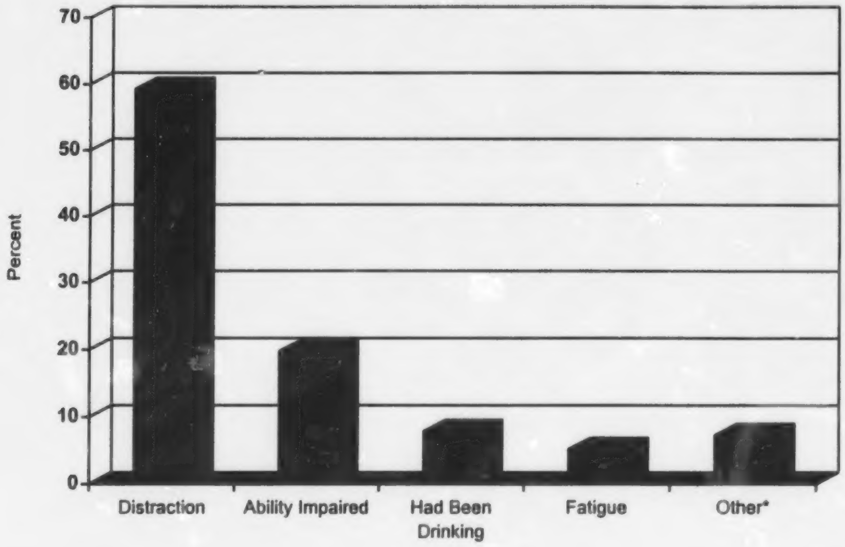
1. These statistics are understated and represent only those collisions where alcohol involvement was apparent.

Comparison of At-Fault Human Condition Factors in Fatal Traffic Collisions
1999



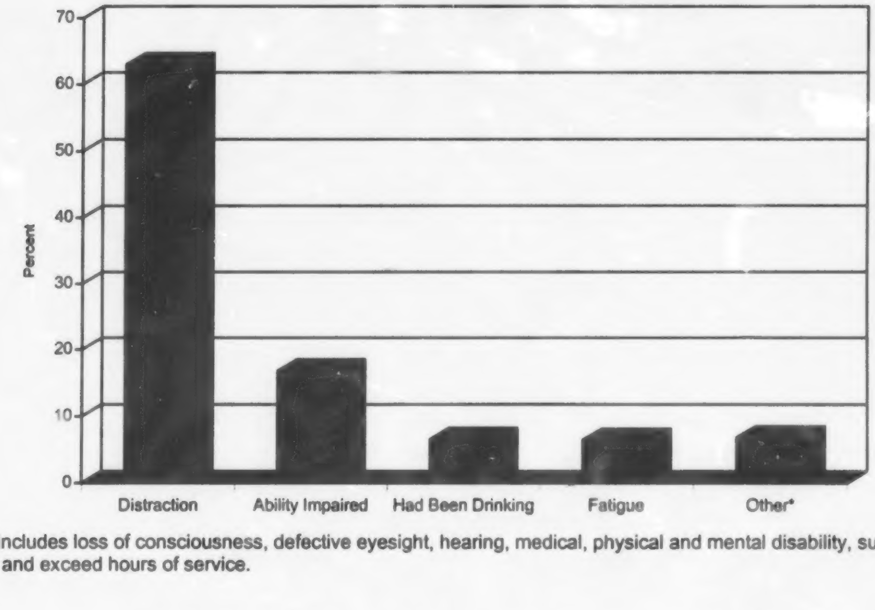
Among the at-fault drivers involved in fatal collisions, 64.7% were cited for having consumed alcohol. Of these at-fault drivers, 38.2% had their driving ability "impaired by alcohol", while 26.5% "had been drinking". After alcohol consumption, the most often reported driver condition among those involved in fatal crashes was "distraction/inattention" at 29.4%.

Comparison of At-Fault Human Condition Factors in Injury Traffic Collisions, 1999



"Distraction/inattention" (59.4%) was the most frequently reported driver condition. After driver inattentiveness, alcohol consumption was the most reported driver condition. Prior to collision occurrence, 19.9% of the at-fault drivers had their ability "impaired by alcohol", while 8.0% "had been drinking".

Comparison of At-Fault Human Condition Factors in Property Damage Traffic Collisions,1999



Other category includes loss of consciousness, defective eyesight, hearing, medical, physical and mental disability, sudden illness, impaired drugs, and exceed hours of service.

Among at-fault drivers involved in property damage collisions, 63.1% were affected by "distraction/inattention", 16.9% had their "ability impaired by alcohol", and 6.6% "had been drinking suspected alcohol use".

Driver Involvement in Fatal Traffic Collisions by Human Condition and Age Group 1999

Human Condition	Age Group										Total
	<16	16-19	20-24	25-34	35-44	45-54	55-64	65-74	75>	NS	
Apparently Normal	1	11	14	18	25	15	17	8	8	0	117
Loss of Consciousness	0	0	0	0	0	0	0	0	0	0	0
Extreme Fatigue/Sleep	0	1	0	0	0	0	0	0	0	0	1
Defective Eyesight	0	0	0	0	0	0	0	0	0	0	0
Defective Hearing	0	0	0	0	0	0	0	0	0	0	0
Medical Disability	0	0	0	0	0	0	0	0	0	0	0
Physical Disability	0	0	0	0	0	0	0	0	0	0	0
Mental Disability	0	0	0	0	0	0	0	0	0	0	0
Mental Confusion	0	0	0	0	0	0	0	0	0	0	0
Sudden Illness	0	0	0	0	0	0	0	1	0	0	1
Ability Impaired Alcohol	0	4	2	5	1	1	0	0	0	0	13
Ability Impaired Drugs	0	0	0	0	0	0	0	0	0	0	0
Had Been Drinking Suspected Alcohol Use[1]	0	2	1	2	2	2	0	0	0	0	9
Distraction/Inattention	0	0	0	3	0	1	3	2	1	0	10
Exceed Hours of Service	0	0	0	0	0	0	0	0	0	0	0
Total	1	18	17	28	28	19	20	11	9	0	151
At-fault rate/10,000 active licenced drivers	-.-	1.6	0.5	0.8	0.2	0.3	0.4	0.5	0.3	0.0	0.5

[1] These statistics are understated and represent only those collisions where alcohol involvement was apparent.

The age group 16-19 recorded the highest reported rate of at-fault human condition factors in fatal collisions at 1.6/10,000 active licenced drivers, followed by 25-34 at 0.8/10,000 active licenced drivers.

"Ability impaired by alcohol" (38.2%), "had been drinking/suspected alcohol use" (26.5%) and "distraction/inattention" (29.4%) were the primary contributing factors.

Driver Involvement in Fatal Traffic Collisions
by Human Condition and Age Group
1999

Human Condition	Age Group										Total
	<16	16-19	20-24	25-34	35-44	45-54	55-64	65-74	75>	NS	
Apparently Normal	1	11	14	18	25	15	17	8	8	0	117
Loss of Consciousness	0	0	0	0	0	0	0	0	0	0	0
Extreme Fatigue/Sleep	0	1	0	0	0	0	0	0	0	0	1
Defective Eyesight	0	0	0	0	0	0	0	0	0	0	0
Defective Hearing	0	0	0	0	0	0	0	0	0	0	0
Medical Disability	0	0	0	0	0	0	0	0	0	0	0
Physical Disability	0	0	0	0	0	0	0	0	0	0	0
Mental Disability	0	0	0	0	0	0	0	0	0	0	0
Mental Confusion	0	0	0	0	0	0	0	0	0	0	0
Sudden Illness	0	0	0	0	0	0	0	1	0	0	1
Ability Impaired Alcohol	0	4	2	5	1	1	0	0	0	0	13
Ability Impaired Drugs	0	0	0	0	0	0	0	0	0	0	0
Had Been Drinking Suspected Alcohol Use[1]	0	2	1	2	2	2	0	0	0	0	9
Distraction/Inattention	0	0	0	3	0	1	3	2	1	0	10
Exceed Hours of Service	0	0	0	0	0	0	0	0	0	0	0
Total	1	18	17	28	28	19	20	11	9	0	151
At-fault rate/10,000 active licenced drivers	-.-	1.6	0.5	0.8	0.2	0.3	0.4	0.5	0.3	0.0	0.5

[1] These statistics are understated and represent only those collisions where alcohol involvement was apparent.

The age group 16-19 recorded the highest reported rate of at-fault human condition factors in fatal collisions at 1.6/10,000 active licenced drivers, followed by 25-34 at 0.8/10,000 active licenced drivers.

"Ability impaired by alcohol" (38.2%), "had been drinking/suspected alcohol use" (26.5%) and "distraction/inattention" (29.4%) were the primary contributing factors.

Driver Involvement in Injury and Property Damage Traffic Collisions by Human Condition and Age Group
1999

Human Condition	Age Group										Total
	<16	16-19	20-24	25-34	35-44	45-54	55-64	65-74	75>	NS	
Apparently Normal	88	4983	4670	7240	7755	5827	3256	1981	1228	5798	42826
Loss of Consciousness	0	3	2	7	6	6	3	4	4	0	35
Extreme Fatigue/Sleep	0	29	36	20	13	6	5	2	2	1	114
Defective Eyesight	0	1	0	2	2	1	0	1	7	1	15
Defective Hearing	0	0	1	1	2	0	1	1	3	0	9
Medical Disability	0	0	1	1	2	4	0	3	4	0	15
Physical Disability	0	0	1	1	4	3	1	1	1	0	12
Mental Disability	2	1	2	4	0	1	0	0	0	1	11
Mental Confusion	0	0	1	1	0	0	1	4	12	0	19
Sudden Illness	0	1	2	1	0	2	2	0	0	0	8
Ability Impaired Alcohol	1	44	66	80	77	35	14	5	6	12	340
Ability Impaired Drugs	0	2	0	1	1	0	1	0	1	0	6
Had Been Drinking Suspected Alcohol Use[1]	0	30	26	36	26	9	1	2	1	3	134
Distraction/Inattention	9	230	182	194	173	158	78	59	53	28	1164
Exceed Hours of Service	1	1	1	0	0	0	0	0	0	0	3
Total	101	5325	4991	7589	8061	6052	3363	2063	1322	5844	44711
At-fault rate/1,000 active drivers	-.-	7.9	5.8	2.9	2.0	1.7	1.3	1.4	2.7	-.-	2.8

1. These statistics are understated and represent only those collisions where alcohol involvement was apparent.

The age group 16-19 recorded the highest rate of at-fault human condition factors in injury and property damage collisions at 7.9/1,000, followed by 20-24 at 5.8/1,000 and 25-34 at 2.9/1,000.

"Distraction/inattention" accounted for 61.7% (1,164) of the at-fault human condition factors, followed by "ability impaired by alcohol" (18.0%) and "had been drinking/suspected alcohol use" (7.1%).

Driver Involvement in Injury and Property Damage Traffic Collisions by Human Condition and Age Group 1999

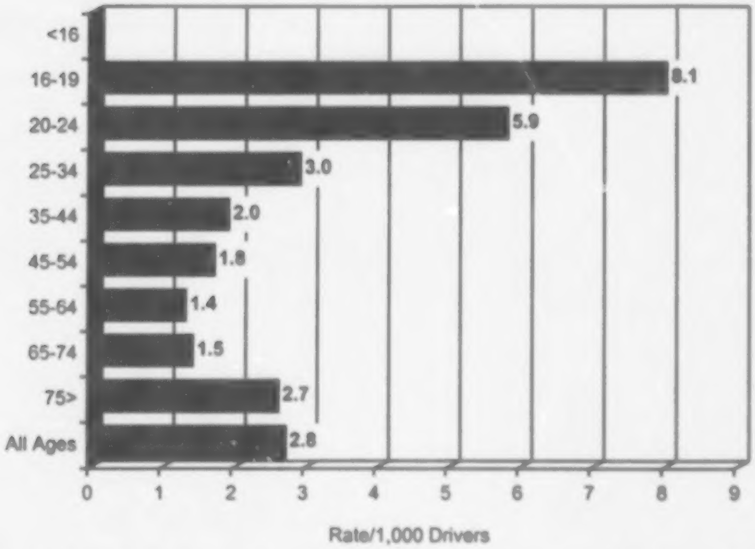
Human Condition	Age Group										Total
	<16	16-19	20-24	25-34	35-44	45-54	55-64	65-74	75>	NS	
Apparently Normal	88	4983	4670	7240	7755	5827	3256	1981	1228	5798	42826
Loss of Consciousness	0	3	2	7	6	6	3	4	4	0	35
Extreme Fatigue/Sleep	0	29	36	20	13	6	5	2	2	1	114
Defective Eyesight	0	1	0	2	2	1	0	1	7	1	15
Defective Hearing	0	0	1	1	2	0	1	1	3	0	9
Medical Disability	0	0	1	1	2	4	0	3	4	0	15
Physical Disability	0	0	1	1	4	3	1	1	1	0	12
Mental Disability	2	1	2	4	0	1	0	0	0	1	11
Mental Confusion	0	0	1	1	0	0	1	4	12	0	19
Sudden Illness	0	1	2	1	0	2	2	0	0	0	8
Ability Impaired Alcohol	1	44	66	80	77	35	14	5	6	12	340
Ability Impaired Drugs	0	2	0	1	1	0	1	0	1	0	6
Had Been Drinking Suspected Alcohol Use[1]	0	30	26	36	26	9	1	2	1	3	134
Distraction/Inattention	9	230	182	194	173	158	78	59	53	28	1164
Exceed Hours of Service	1	1	1	0	0	0	0	0	0	0	3
Total	101	5325	4991	7589	8061	6052	3363	2063	1322	5844	44711
At-fault rate/1,000 active drivers	-.-	7.9	5.8	2.9	2.0	1.7	1.3	1.4	2.7	-.-	2.8

1. These statistics are understated and represent only those collisions where alcohol involvement was apparent.

The age group 16-19 recorded the highest rate of at-fault human condition factors in injury and property damage collisions at 7.9/1,000, followed by 20-24 at 5.8/1,000 and 25-34 at 2.9/1,000.

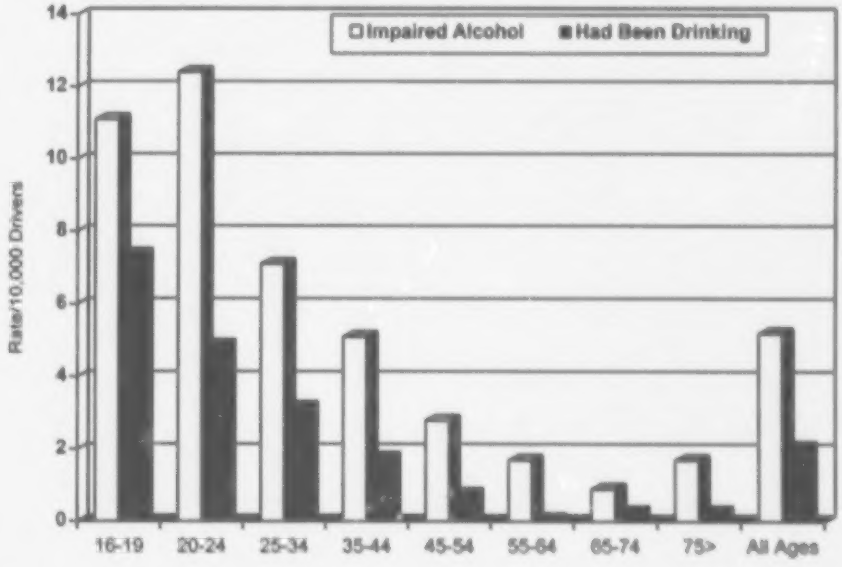
"Distraction/inattention" accounted for 61.7% (1,164) of the at-fault human condition factors, followed by "ability impaired by alcohol" (18.0%) and "had been drinking/suspected alcohol use" (7.1%).

Rate of At-Fault Human Condition Factors
by 1,000 Active Licenced Drivers and Age Group
1999



The 16-19 age group recorded the highest rate of at-fault human condition factors, at 8.1/1,000 active licenced drivers, followed by the 20-24 age group at 5.9/1,000 and the 25-34 age group at 3.0/1,000.

Alcohol- Related Human Condition Factors
by 10,000 Active Licenced Drivers and Age Group
1999



Vehicle Involvement in Traffic Collisions by Vehicle Defect and Collision Type 1999

Vehicle Defect[1]	Collision Type			Total	%
	Fatal	Injury	P. Damage		
No Apparent Defect	152	12451	35433	48036	99.2
Defective Brakes	2	30	55	87	0.2
Defective Steering	0	3	10	13	-.-
Defective Headlights	0	2	5	7	-.-
Defective Brake Lights	0	3	4	7	-.-
Defective Lighting (Unspecific)	1	4	5	10	-.-
Defective Engine Controls/Drive Train	1	13	41	55	0.1
Defective Suspension/Wheels	0	1	12	13	-.-
Defective Tires	0	19	36	55	0.1
Defective Tow Hitch/Yoke	0	0	10	10	-.-
Defective Exhaust System	0	2	1	3	-.-
Hood/Tailgate/Door/Covering Opened	0	1	6	7	-.-
Defective Glazing (obscured window)	1	0	5	6	-.-
Vehicle Modifications	0	1	7	8	-.-
Fire	0	1	97	98	0.2
Overloaded/Oversized	0	0	3	3	-.-
Load Shifted/Spilled	0	5	10	15	0.1
Jack-Knife/Trailer Swing	0	3	5	8	-.-
Hydroplaning of Tires	0	4	12	16	0.1
Total	157	12543	35757	48457	100.0

[1] *The reader is cautioned that the "vehicle defect" statistics are obtained from the traffic accident reports completed by the person reporting the collision and as such they may be unaware of any vehicle defect.*

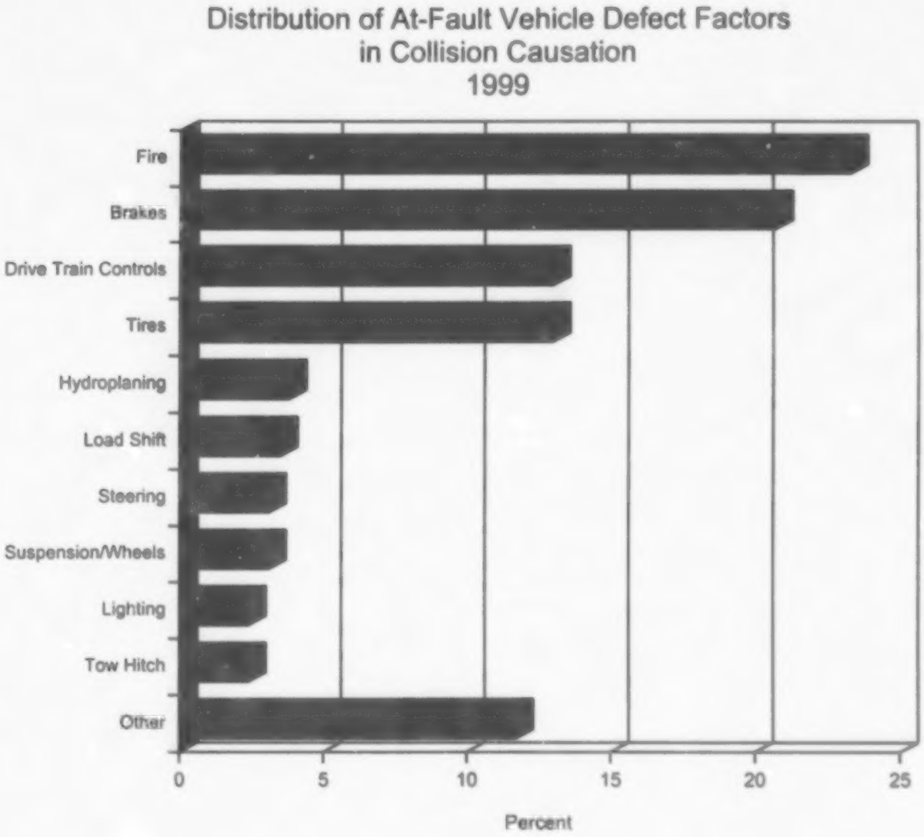
Of the total number of vehicles involved in traffic collisions, 99.2 % had "no apparent defect" at time of collision occurrence. Only 0.9 % or 421 vehicles involved were reported to have had a vehicle defect that contributed to collision causation.

Vehicle Involvement in Traffic Collisions
by Vehicle Defect and Collision Type
1999

Vehicle Defect[1]	Collision Type			Total	%
	Fatal	Injury	P. Damage		
No Apparent Defect	152	12451	35433	48036	99.2
Defective Brakes	2	30	55	87	0.2
Defective Steering	0	3	10	13	-.-
Defective Headlights	0	2	5	7	-.-
Defective Brake Lights	0	3	4	7	-.-
Defective Lighting (Unspecific)	1	4	5	10	-.-
Defective Engine Controls/Drive Train	1	13	41	55	0.1
Defective Suspension/Wheels	0	1	12	13	-.-
Defective Tires	0	19	36	55	0.1
Defective Tow Hitch/Yoke	0	0	10	10	-.-
Defective Exhaust System	0	2	1	3	-.-
Hood/Tailgate/Door/Covering Opened	0	1	6	7	-.-
Defective Glazing (obscured window)	1	0	5	6	-.-
Vehicle Modifications	0	1	7	8	-.-
Fire	0	1	97	98	0.2
Overloaded/Oversized	0	0	3	3	-.-
Load Shifted/Spilled	0	5	10	15	0.1
Jack-Knife/Trailer Swing	0	3	5	8	-.-
Hydroplaning of Tires	0	4	12	16	0.1
Total	157	12543	35757	48457	100.0

1. *The reader is cautioned that the "vehicle defect" statistics are obtained from the traffic accident reports completed by the person reporting the collision and as such they may be unaware of any vehicle defect.*

Of the total number of vehicles involved in traffic collisions, 99.2 % had "no apparent defect" at time of collision occurrence. Only 0.9 % or 421 vehicles involved were reported to have had a vehicle defect that contributed to collision causation.



Other includes vehicle modifications, jack knife/trailer swing, hood/tailgate/door, headlights, brakelights, defective glazing, overload/oversized, exhaust system.

The distribution of at-fault "vehicle defects" are based on 421 vehicles involved in traffic collisions that had a *readily apparent* defect at time of collision occurrence.

Vehicle Involvement in Traffic Collisions by Environmental Condition and Collision Type 1999

Environmental Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
No Apparent Contributing Factor	145	11519	30961	42625	88.0
Animal Action – Wild	0	156	2359	2515	5.2
Animal Action – Domestic	0	21	113	134	0.3
Slippery Road Surface	4	521	1579	2104	4.3
Snow Drift	0	13	46	59	0.1
Obstruction/Debris on Roadway	0	18	73	91	0.2
View Obstructed/Limited	3	85	210	298	0.6
Glare	1	36	53	90	0.2
Construction Zone	0	12	22	34	0.1
Defective Driving Surface	1	44	104	149	0.3
Shoulders Defective	0	6	12	18	-.-
Lane Markings Inadequate	0	3	3	6	-.-
Defective/Inoperative Traffic Control Device	0	6	10	16	-.-
Weather	3	57	117	177	0.4
Pedestrian Corridor in Use	0	11	4	15	-.-
Uninvolved Vehicle	0	23	69	92	0.2
Uninvolved Pedestrian	0	7	14	21	0.1
Presence of Prior Accident	0	5	8	13	-.-
Total	157	12543	35757	48457	100.0

Environmental conditions were cited as contributing factors for 12.0% of all vehicles involved in traffic collisions. Considering only those vehicles whose involvement was due to environmental conditions, "slippery road surface" accounted for 33.3% (4) of such vehicles involved in fatal collisions, followed by "view obstructed and limited" and "weather" which each accounted for 25.0% (3).

The most significant environmental factors contributing to vehicle involvement in injury collisions were "slippery road surface" and "animal action - wild".

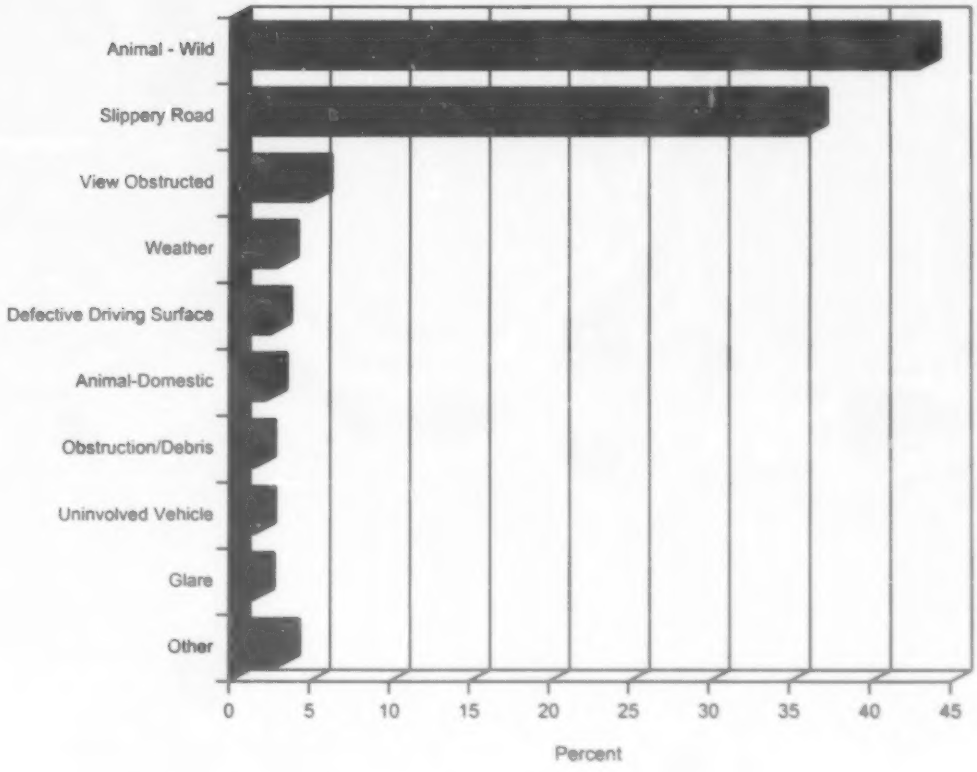
Vehicle Involvement in Traffic Collisions
by Environmental Condition and Collision Type
1999

Environmental Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
No Apparent Contributing Factor	145	11519	30961	42625	88.0
Animal Action – Wild	0	156	2359	2515	5.2
Animal Action – Domestic	0	21	113	134	0.3
Slippery Road Surface	4	521	1579	2104	4.3
Snow Drift	0	13	46	59	0.1
Obstruction/Debris on Roadway	0	18	73	91	0.2
View Obstructed/Limited	3	85	210	298	0.6
Glare	1	36	53	90	0.2
Construction Zone	0	12	22	34	0.1
Defective Driving Surface	1	44	104	149	0.3
Shoulders Defective	0	6	12	18	-.-
Lane Markings Inadequate	0	3	3	6	-.-
Defective/Inoperative Traffic Control Device	0	6	10	16	-.-
Weather	3	57	117	177	0.4
Pedestrian Corridor in Use	0	11	4	15	-.-
Uninvolved Vehicle	0	23	69	92	0.2
Uninvolved Pedestrian	0	7	14	21	0.1
Presence of Prior Accident	0	5	8	13	-.-
Total	157	12543	35757	48457	100.0

Environmental conditions were cited as contributing factors for 12.0% of all vehicles involved in traffic collisions. Considering only those vehicles whose involvement was due to environmental conditions, "slippery road surface" accounted for 33.3% (4) of such vehicles involved in fatal collisions, followed by "view obstructed and limited" and "weather" which each accounted for 25.0% (3).

The most significant environmental factors contributing to vehicle involvement in injury collisions were "slippery road surface" and "animal action - wild".

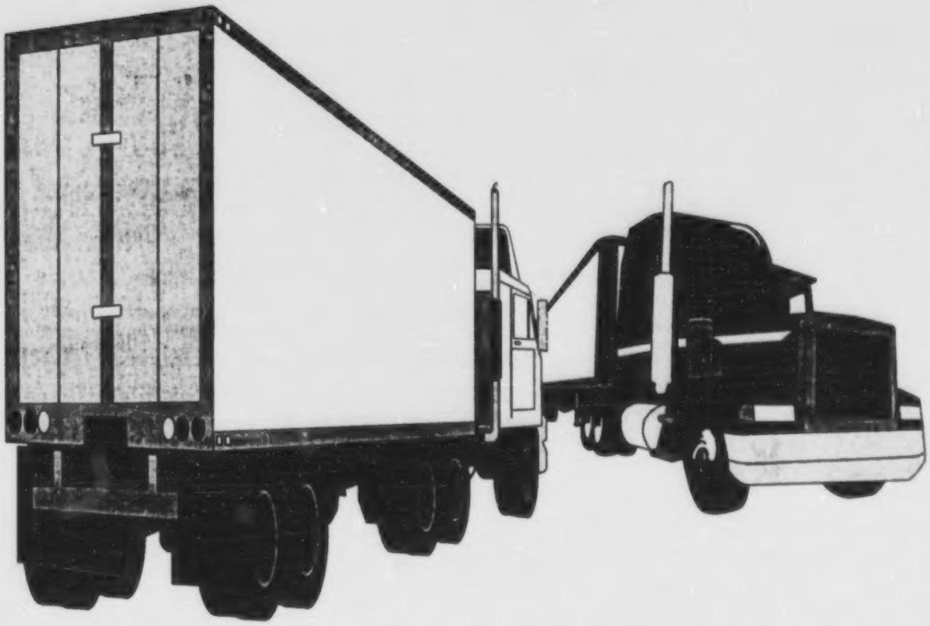
Distribution of At-Fault Environmental Factors in Collision Causation 1999



Other includes snowdrift, construction zone, uninvolved pedestrian, pedestrian corridor, prior accident, defective shoulders, traffic control device and lane markings.

Environmental conditions were a factor in the involvement of 5,832 vehicles in collisions.

Section 10



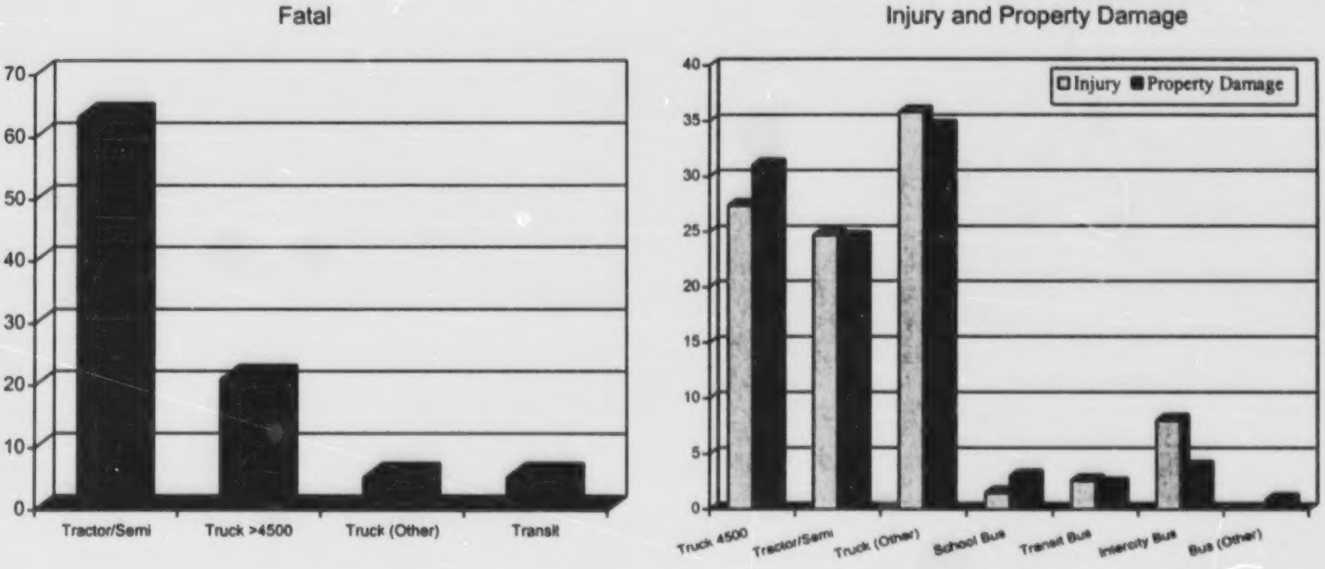
National Safety Code Monitoring Report

Commercial Vehicle Traffic Collisions[1]
by NSC Commercial Vehicle Category and Collision Type
1999

Vehicle Category	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Truck >4500 kg	4	124	438	566	30.0
Tractor/Semi	12	112	346	470	24.9
Truck (Other)	2	162	488	652	34.6
School Bus	0	7	43	50	2.7
Transit Bus	1	12	33	46	2.4
Intercity Bus	0	36	53	89	4.7
Bus (Other)	0	0	12	12	0.7
Total	19	453	1413	1885	100.0

1. Chart presents the number of commercial vehicles involved in traffic accidents by NSC vehicle category.

Comparison of Commercial Vehicle Collisions
by NSC Commercial Vehicle Category and Collision Type
1999


Fatal

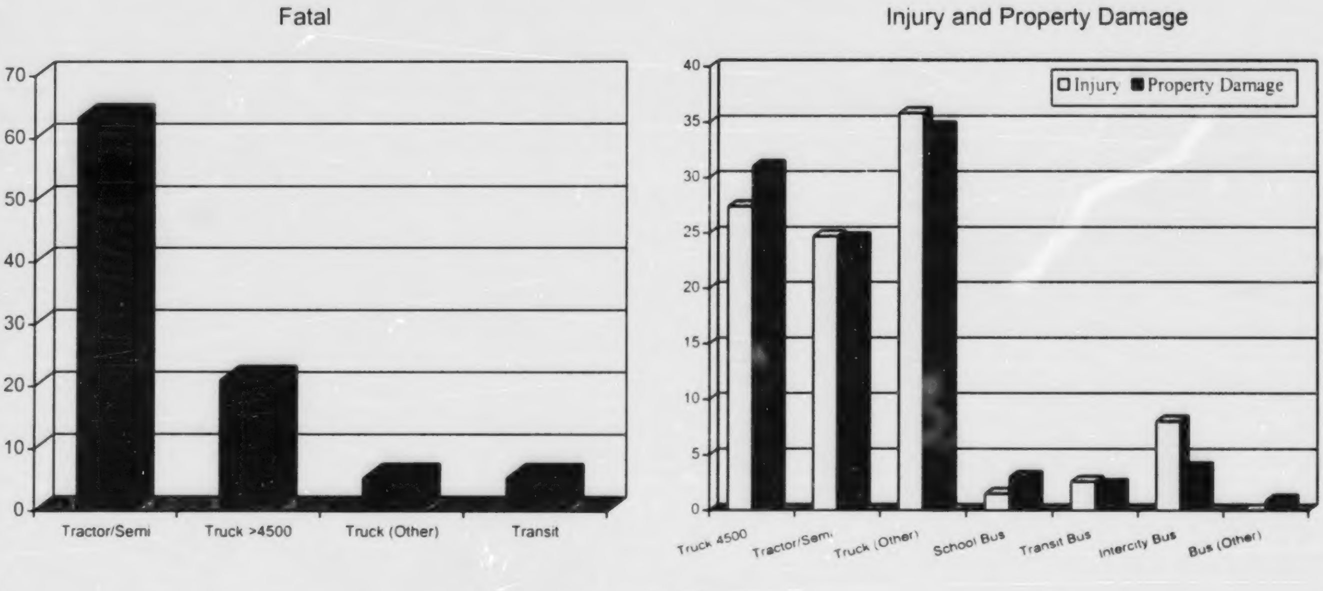
Injury and Property Damage

Commercial Vehicle Traffic Collisions[1] by NSC Commercial Vehicle Category and Collision Type 1999

Vehicle Category	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Truck >4500 kg	4	124	438	566	30.0
Tractor/Semi	12	112	346	470	24.9
Truck (Other)	2	162	488	652	34.6
School Bus	0	7	43	50	2.7
Transit Bus	1	12	33	46	2.4
Intercity Bus	0	36	53	89	4.7
Bus (Other)	0	0	12	12	0.7
Total	19	453	1413	1885	100.0

1. Chart presents the number of commercial vehicles involved in traffic accidents by NSC vehicle category.

Comparison of Commercial Vehicle Collisions by NSC Commercial Vehicle Category and Collision Type 1999



Fatal

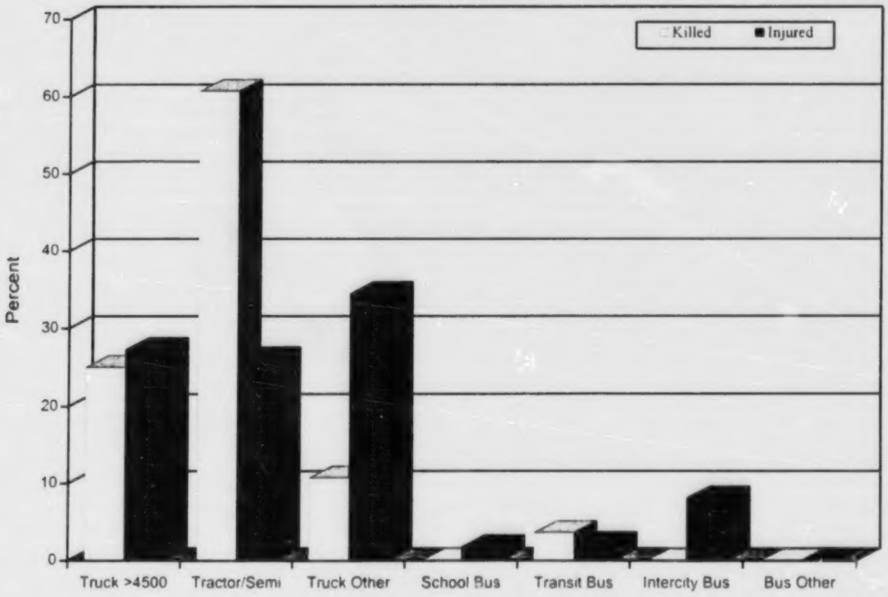
Injury and Property Damage

Commercial Vehicle Traffic Collision Victims[1]
by NSC Commercial Vehicle Category and Injury Type
1999

Vehicle Category	Injury Type		Total	%
	Killed	Injured		
Truck >4500 kg	7	185	192	27.2
Tractor/Semi	17	177	194	27.5
Truck (Other)	3	234	237	33.5
School Bus	0	12	12	1.7
Transit Bus	1	15	16	2.3
Intercity Bus	0	55	55	7.8
Bus (Other)	0	0	0	0.0
Total	28	678	706	100.0

1. Chart presents the number of people killed or injured when a commercial vehicle was involved in traffic accidents by NSC vehicle category.

Comparison of Commercial Vehicle Traffic Collision Victims
by NSC Commercial Vehicle Category and Collision Severity
1999



Commercial Vehicle Involvement in Traffic Collisions by Pre-Collision Activity and Collision Type
1999

Pre-Collision Activity	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Going Straight Ahead	13	162	416	591	45.6
Turning Left	1	26	79	106	8.2
Turning Right	0	12	74	86	6.6
Making U Turn	0	0	5	5	0.4
Changing Lanes – Left	0	1	7	8	0.6
Changing Lanes – Right	0	6	9	15	1.2
Merging	0	2	7	9	0.7
Reversing	0	6	72	78	6.0
Overtaking	0	5	11	16	1.2
Slowing/Stopping on Roadway	1	17	13	31	2.4
Stopped in Traffic	0	30	59	89	6.9
Starting in Traffic	0	2	3	5	0.4
Leave Parking Position/Roadside	0	2	9	11	0.9
Enter Parking Position/Roadside	0	0	6	6	0.5
Parked Legally	1	2	50	53	4.1
Parked Illegally	0	0	3	3	0.2
Swerving	0	2	5	7	0.5
Unknown	0	1	1	2	0.2
Not Applicable	2	32	140	174	13.4
Total	18	308	969	1295	100.0

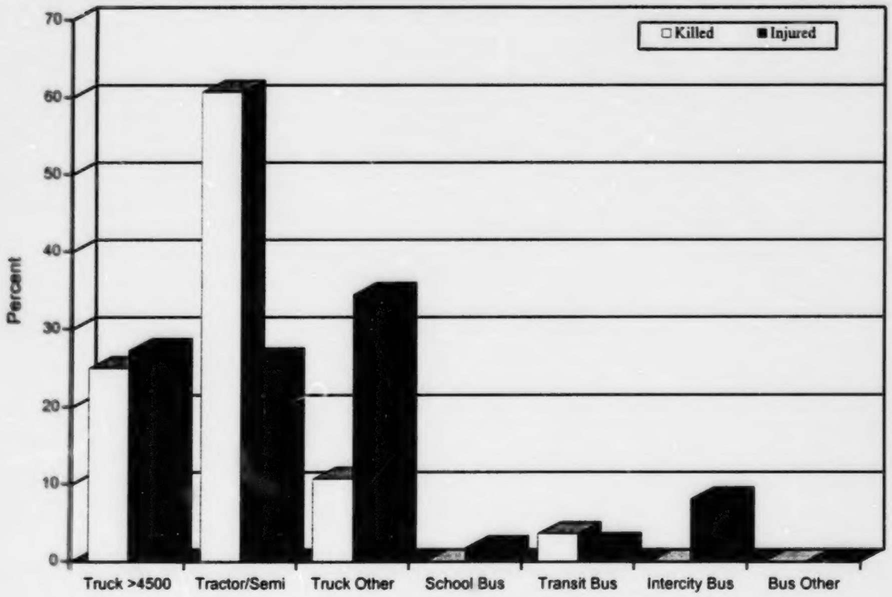
Of the total NSC vehicles involved in traffic collisions, 45.6% (591) were moving "straight ahead" when accident involvement occurred, 8.2% (106) were "turning left" and 6.9% (89) were "stopped in traffic.".

Commercial Vehicle Traffic Collision Victims[1] by NSC Commercial Vehicle Category and Injury Type 1999

Vehicle Category	Injury Type		Total	%
	Killed	Injured		
Truck >4500 kg	7	185	192	27.2
Tractor/Semi	17	177	194	27.5
Truck (Other)	3	234	237	33.5
School Bus	0	12	12	1.7
Transit Bus	1	15	16	2.3
Intercity Bus	0	55	55	7.8
Bus (Other)	0	0	0	0.0
Total	28	678	706	100.0

1. Chart presents the number of people killed or injured when a commercial vehicle was involved in traffic accidents by NSC vehicle category.

Comparison of Commercial Vehicle Traffic Collision Victims by NSC Commercial Vehicle Category and Collision Severity 1999



Commercial Vehicle Involvement in Traffic Collisions by Pre-Collision Activity and Collision Type
1999

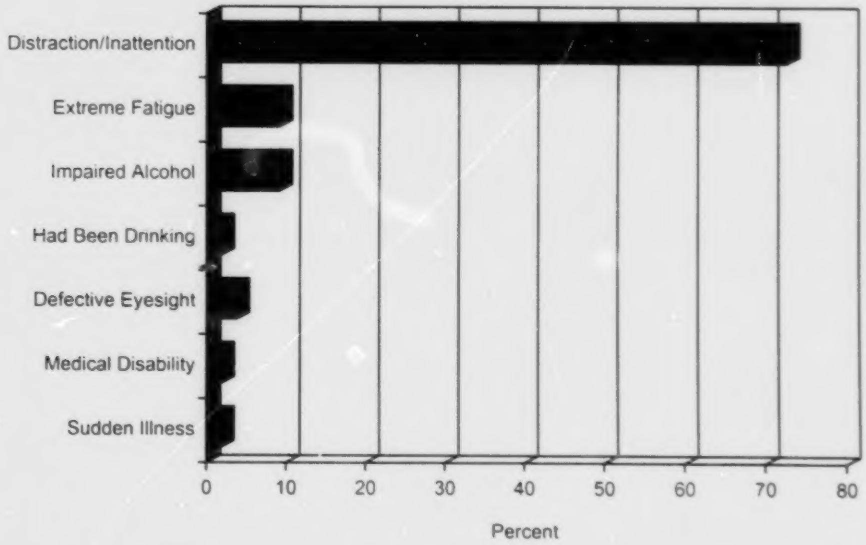
Pre-Collision Activity	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Going Straight Ahead	13	162	416	591	45.6
Turning Left	1	26	79	106	8.2
Turning Right	0	12	74	86	6.6
Making U Turn	0	0	5	5	0.4
Changing Lanes – Left	0	1	7	8	0.6
Changing Lanes – Right	0	6	9	15	1.2
Merging	0	2	7	9	0.7
Reversing	0	6	72	78	6.0
Overtaking	0	5	11	16	1.2
Slowing/Stopping on Roadway	1	17	13	31	2.4
Stopped in Traffic	0	30	59	89	6.9
Starting in Traffic	0	2	3	5	0.4
Leave Parking Position/Roadside	0	2	9	11	0.9
Enter Parking Position/Roadside	0	0	6	6	0.5
Parked Legally	1	2	50	53	4.1
Parked Illegally	0	0	3	3	0.2
Swerving	0	2	5	7	0.5
Unknown	0	1	1	2	0.2
Not Applicable	2	32	140	174	13.4
Total	18	308	969	1295	100.0

Of the total NSC vehicles involved in traffic collisions, 45.6% (591) were moving "straight ahead" when accident involvement occurred, 8.2% (106) were "turning left" and 6.9% (89) were "stopped in traffic.".

Commercial Driver Involvement in Traffic Collisions by At-Fault Human Condition and Collision Type 1999

Human Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Apparently Normal	12	177	467	656	50.7
Extreme Fatigue/Fell Asleep	0	1	4	5	0.4
Defective Eyesight	0	0	2	2	0.1
Ability Impaired – Alcohol	0	1	4	5	0.4
Had Been Drinking/Suspected Alcohol Use	0	0	1	1	0.1
Distraction/Inattention	0	13	27	40	3.0
Medical Disability	0	1	0	1	0.1
Sudden Illness	0	0	1	1	0.1
Not Stated	6	115	463	584	45.1
Total	18	308	969	1295	100.0

Distribution of At-Fault Human Condition* Factors in Commercial Vehicle Traffic Collisions 1999

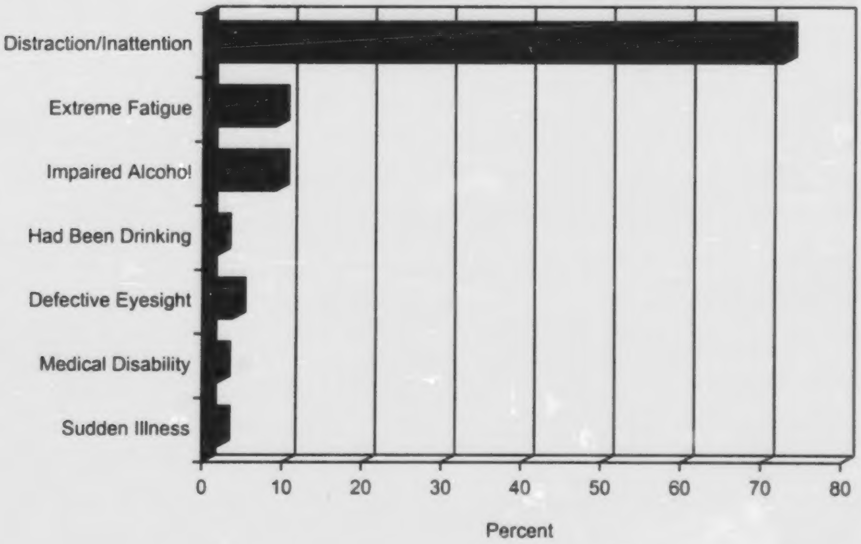


There were 55 at-fault human conditions, 4.2% of the total human condition factors recorded as being partly responsible for collision causation.

Commercial Driver Involvement in Traffic Collisions by At-Fault Human Condition and Collision Type
1999

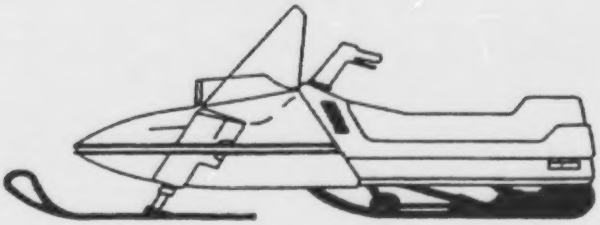
Human Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Apparently Normal	12	177	467	656	50.7
Extreme Fatigue/Fell Asleep	0	1	4	5	0.4
Defective Eyesight	0	0	2	2	0.1
Ability Impaired – Alcohol	0	1	4	5	0.4
Had Been Drinking/Suspected Alcohol Use	0	0	1	1	0.1
Distraction/Inattention	0	13	27	40	3.0
Medical Disability	0	1	0	1	0.1
Sudden Illness	0	0	1	1	0.1
Not Stated	6	115	463	584	45.1
Total	18	308	969	1295	100.0

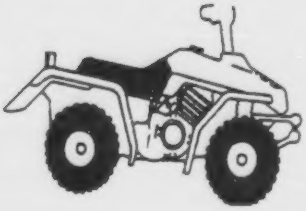
Distribution of At-Fault Human Condition* Factors in Commercial Vehicle Traffic Collisions
1999

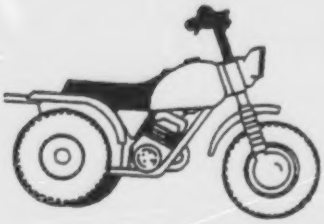


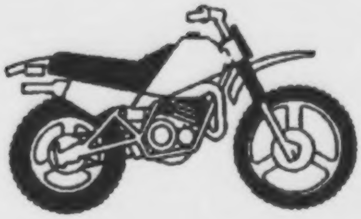
There were 55 at-fault human conditions, 4.2% of the total human condition factors recorded as being partly responsible for collision causation.

Section 11







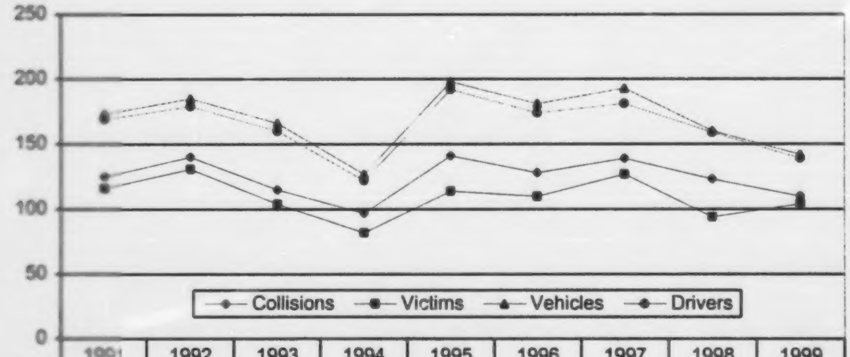


Off-Road Vehicle Collisions

Collision Summary
1991 – 1999

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total Collisions	125	140	115	97	141	128	139	123	110
Fatal	7	6	3	9	11	7	12	10	8
Injury	80	104	78	59	84	84	87	64	76
Property Damage	38	30	34	29	46	37	40	49	26
Total Victims	116	131	104	82	114	110	127	94	104
Killed	7	6	3	9	11	8	15	10	8
Injured	109	125	101	73	103	102	112	84	96
Total Vehicles Involved	173	185	166	127	198	181	193	160	142
Fatal	10	9	5	11	16	8	21	13	9
Injury	111	132	117	78	110	118	116	83	99
Property Damage	52	44	44	38	72	55	56	64	34
Total Drivers Involved	169	179	160	122	192	174	181	159	139
Fatal	10	8	5	11	16	8	19	12	9
Injury	111	132	116	76	106	116	108	83	97
Property Damage	48	39	39	35	70	50	54	64	33

Comparison of Total Off-Road Vehicle Collisions by Collision Victims, Vehicle Involvement and Driver Involvement
1991 – 1999

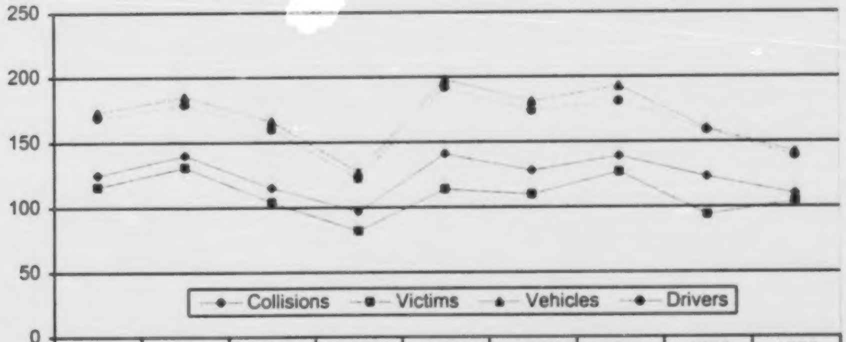


	1991	1992	1993	1994	1995	1996	1997	1998	1999
Collisions	125	140	115	97	141	128	139	123	110
Victims	116	131	104	82	114	110	127	94	104
Vehicles	173	185	166	127	198	181	193	160	142
Drivers	169	179	160	122	192	174	181	159	139

Collision Summary
1991 – 1999

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total Collisions	125	140	115	97	141	128	139	123	110
Fatal	7	6	3	9	11	7	12	10	8
Injury	80	104	78	59	84	84	87	64	76
Property Damage	38	30	34	29	46	37	40	49	26
Total Victims	116	131	104	82	114	110	127	94	104
Killed	7	6	3	9	11	8	15	10	8
Injured	109	125	101	73	103	102	112	84	96
Total Vehicles Involved	173	185	166	127	198	181	193	160	142
Fatal	10	9	5	11	16	8	21	13	9
Injury	111	132	117	78	110	118	116	83	99
Property Damage	52	44	44	38	72	55	56	64	34
Total Drivers Involved	169	179	160	122	192	174	181	159	139
Fatal	10	8	5	11	16	8	19	12	9
Injury	111	132	116	76	106	116	108	83	97
Property Damage	48	39	39	35	70	50	54	64	33

Comparison of Total Off-Road Vehicle Collisions by Collision Victims, Vehicle Involvement and Driver Involvement
1991 – 1999



	1991	1992	1993	1994	1995	1996	1997	1998	1999
Collisions	125	140	115	97	141	128	139	123	110
Victims	116	131	104	82	114	110	127	94	104
Vehicles	173	185	166	127	198	181	193	160	142
Drivers	169	179	160	122	192	174	181	159	139

Collision Summary
by Vehicle Involvement
1999

	Snowmobile	ATV[1]	Motorcycle	Other[2]	Total
Total Collisions	74	25	8	3	110
Fatal	4	3	0	1	8
Injury	46	20	8	2	76
P. Damage	24	2	0	0	26
Total Victims	57	20	9	18	104
Killed	4	0	0	4	8
Injured	53	20	9	14	96
Total Vehicles Involved	85	23	10	24	142
Fatal	4	0	1	4	9
Injury	53	21	9	16	99
P. Damage	28	2	0	4	34
Total Drivers Involved	82	23	10	24	139
Fatal	4	0	1	4	9
Injury	51	21	9	16	97
P. Damage	27	2	0	4	33

1. ATV (All Terrain Vehicles) includes 3, 4 and 6 wheel types.
2. Vehicles not registered as an off-road vehicle, including not stated category.

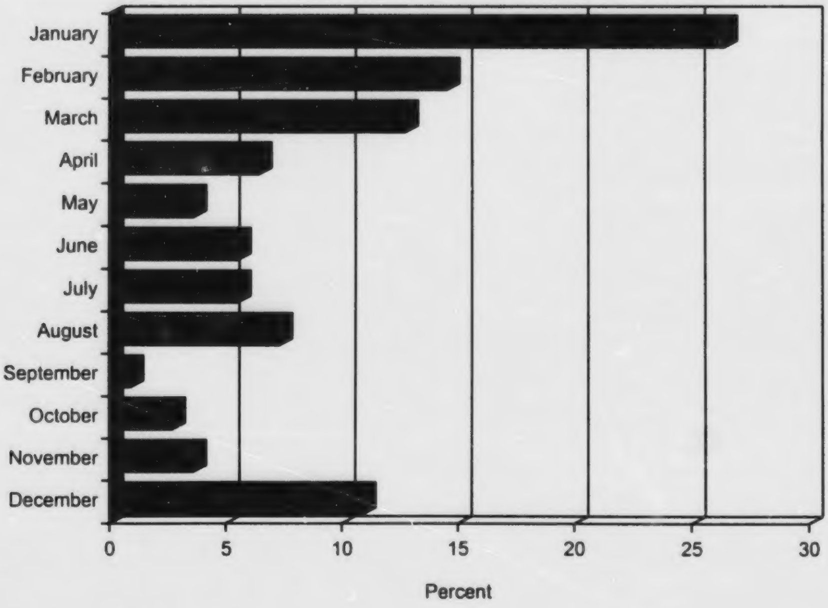
In examining snowmobile vehicle involvement, snowmobiles accounted for 67.3% of total off-road collisions, 54.8% of total victims, 60.0% of total vehicles involved, and 59.0% of total drivers involved.

By Month of Occurrence and Collision Type
1999

Month	Collision Type			Total	%
	Fatal	Injury	P. Damage		
January	3	17	9	29	26.4
February	1	12	3	16	14.5
March	0	9	5	14	12.7
April	1	5	1	7	6.4
May	0	4	0	4	3.6
June	1	5	0	6	5.5
July	0	5	1	6	5.5
August	1	6	1	8	7.3
September	0	1	0	1	0.9
October	1	2	0	3	2.7
November	0	4	0	4	3.6
December	0	6	6	12	10.9
Total	8	76	26	110	100.0

December, January, February and March accounted for 64.5% (71) of the total off-road vehicle collisions. January had the highest number of fatal collisions at 37.5% (3) and recorded the highest rate of injury and property damage off-road vehicle collisions.

Distribution of Total Off-Road Vehicle Collisions by Month of Occurrence
1999



Collision Summary
by Vehicle Involvement
1999

	Snowmobile	ATV[1]	Motorcycle	Other[2]	Total
Total Collisions	74	25	8	3	110
Fatal	4	3	0	1	8
Injury	46	20	8	2	76
P. Damage	24	2	0	0	26
Total Victims	57	20	9	18	104
Killed	4	0	0	4	8
Injured	53	20	9	14	96
Total Vehicles Involved	85	23	10	24	142
Fatal	4	0	1	4	9
Injury	53	21	9	16	99
P. Damage	28	2	0	4	34
Total Drivers Involved	82	23	10	24	139
Fatal	4	0	1	4	9
Injury	51	21	9	16	97
P. Damage	27	2	0	4	33

1. ATV (All Terrain Vehicles) includes 3, 4 and 6 wheel types.
2. Vehicles not registered as an off-road vehicle, including not stated category.

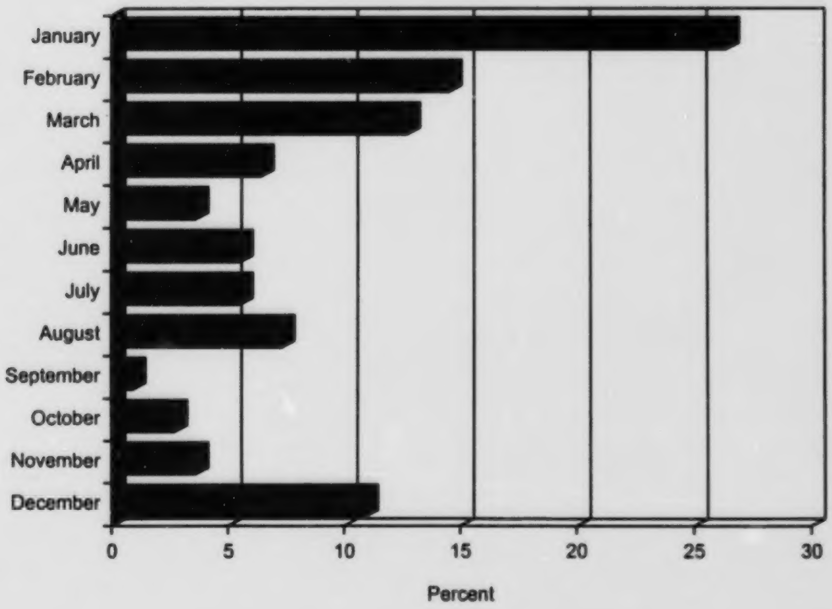
In examining snowmobile vehicle involvement, snowmobiles accounted for 67.3% of total off-road collisions, 54.8% of total victims, 60.0% of total vehicles involved, and 59.0% of total drivers involved.

By Month of Occurrence and Collision Type
1999

Month	Collision Type			Total	%
	Fatal	Injury	P. Damage		
January	3	17	9	29	26.4
February	1	12	3	16	14.5
March	0	9	5	14	12.7
April	1	5	1	7	6.4
May	0	4	0	4	3.6
June	1	5	0	6	5.5
July	0	5	1	6	5.5
August	1	6	1	8	7.3
September	0	1	0	1	0.9
October	1	2	0	3	2.7
November	0	4	0	4	3.6
December	0	6	6	12	10.9
Total	8	76	26	110	100.0

December, January, February and March accounted for 64.5% (71) of the total off-road vehicle collisions. January had the highest number of fatal collisions at 37.5% (3) and recorded the highest rate of injury and property damage off-road vehicle collisions.

Distribution of Total Off-Road Vehicle Collisions by Month of Occurrence
1999

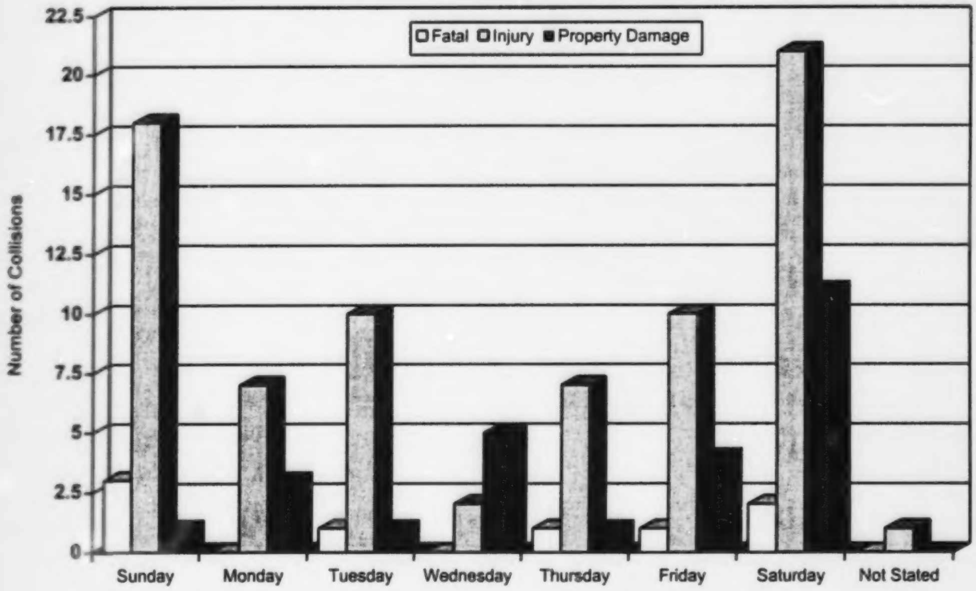


By Day of Occurrence and Collision Type
1999

Day	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Sunday	3	18	1	22	20.0
Monday	0	7	3	10	9.1
Tuesday	1	10	1	12	10.9
Wednesday	0	2	5	7	6.4
Thursday	1	7	1	9	8.2
Friday	1	10	4	15	13.6
Saturday	2	21	11	34	30.9
Not Stated	0	1	0	1	.9
Total	8	76	26	110	100.0

Fatal crashes occurred most often on weekends. Collisions which resulted in deaths occurred more frequently on Saturday and Sunday (25.0% and 37.5% respectively), while no fatal collisions took place on Monday and Wednesday. Off-road injury collisions happened most often on Saturday and Sunday (27.6% and 23.7%), while these crashes occurred least often on Wednesday, at 2.6%.

Comparison of Off-Road Vehicle Collisions by Day of Occurrence and Collision Type
1999

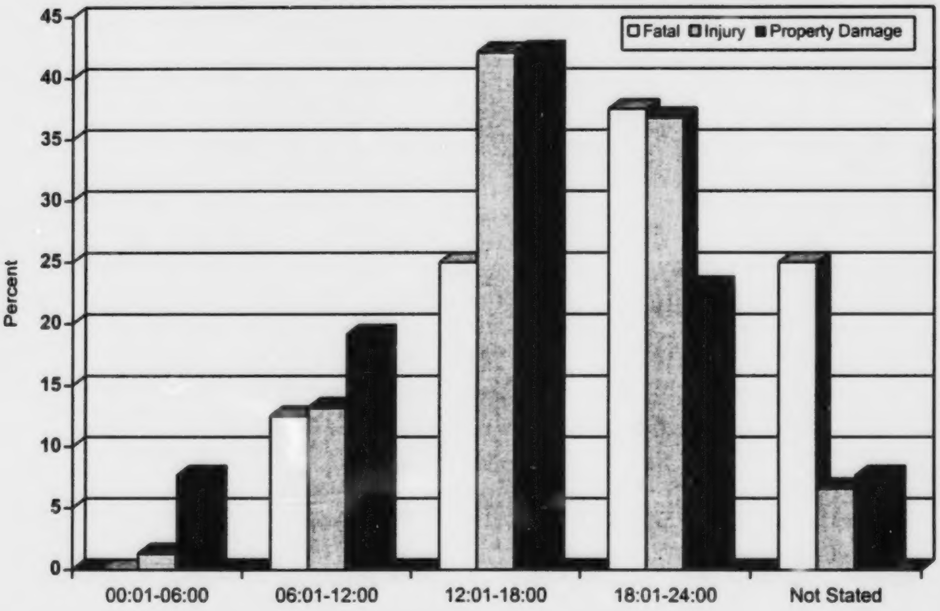


By Time of Occurrence and Collision Type
1999

Time	Collision Type			Total	%
	Fatal	Injury	P. Damage		
00:01 – 06:00	0	1	2	3	2.7
06:01 – 12:00	1	10	5	16	14.6
12:01 – 18:00	2	32	11	45	40.9
18:01 – 24:00	3	28	6	37	33.6
Not Stated	2	5	2	9	8.2
Total	8	76	26	110	100.0

The highest incidence of total off-road vehicle collisions (40.9%) occurred between the time period of 12:01 – 18:00 hours, followed by 18:01 – 24:00 hours at 33.6%.

Comparison of Total Off-Road Vehicle Collisions by Time of Occurrence and Collision Type
1999

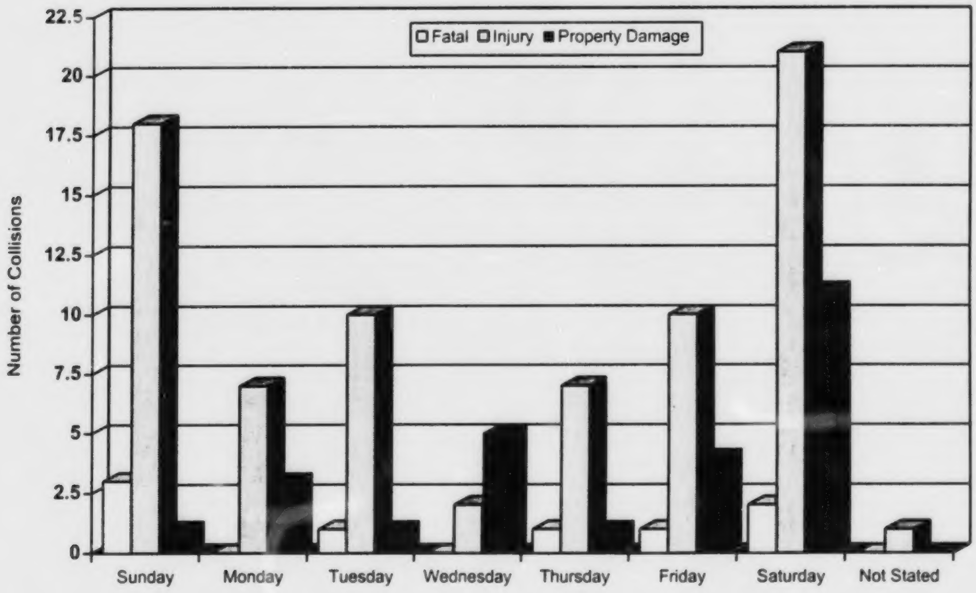


By Day of Occurrence and Collision Type
1999

Day	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Sunday	3	18	1	22	20.0
Monday	0	7	3	10	9.1
Tuesday	1	10	1	12	10.9
Wednesday	0	2	5	7	6.4
Thursday	1	7	1	9	8.2
Friday	1	10	4	15	13.6
Saturday	2	21	11	34	30.9
Not Stated	0	1	0	1	.9
Total	8	76	26	110	100.0

Fatal crashes occurred most often on weekends. Collisions which resulted in deaths occurred more frequently on Saturday and Sunday (25.0% and 37.5% respectively), while no fatal collisions took place on Monday and Wednesday. Off-road injury collisions happened most often on Saturday and Sunday (27.6% and 23.7%), while these crashes occurred least often on Wednesday, at 2.6%.

Comparison of Off-Road Vehicle Collisions by Day of Occurrence and Collision Type
1999

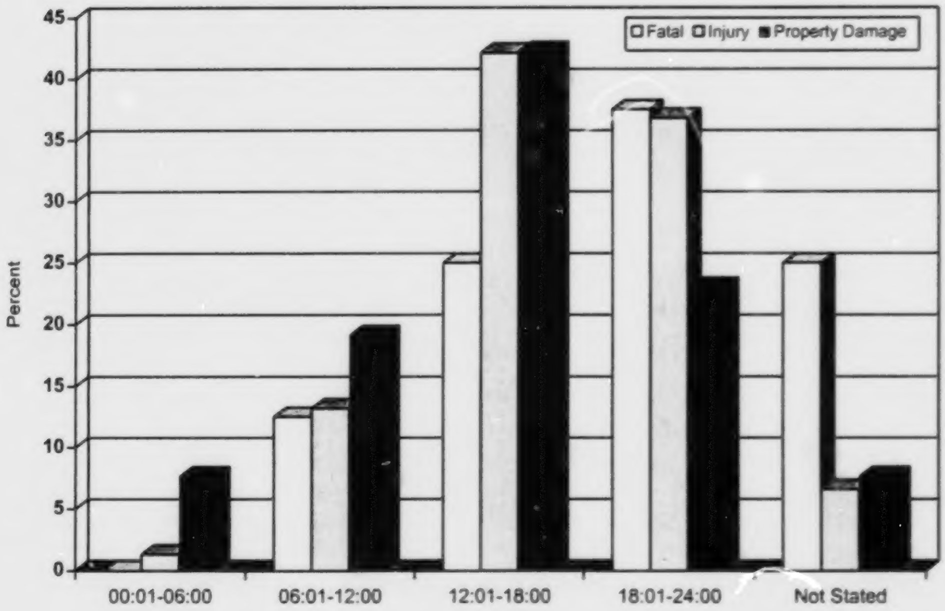


By Time of Occurrence and Collision Type
1999

Time	Collision Type			Total	%
	Fatal	Injury	P. Damage		
00:01 – 06:00	0	1	2	3	2.7
06:01 – 12:00	1	10	5	16	14.6
12:01 – 18:00	2	32	11	45	40.9
18:01 – 24:00	3	28	6	37	33.6
Not Stated	2	5	2	9	8.2
Total	8	76	26	110	100.0

The highest incidence of total off-road vehicle collisions (40.9%) occurred between the time period of 12:01 – 18:00 hours, followed by 18:01 – 24:00 hours at 33.6%.

Comparison of Total Off-Road Vehicle Collisions
by Time of Occurrence and Collision Type
1999

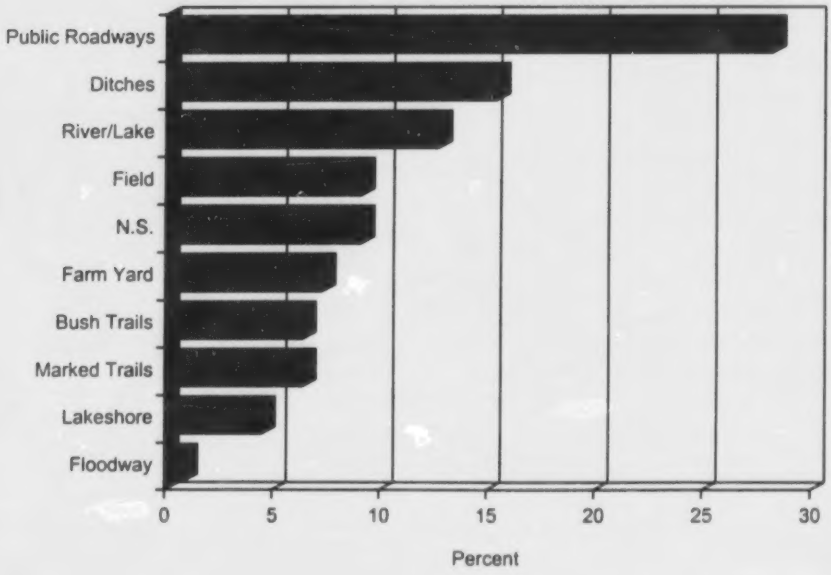


By Collision Location and Collision Type
1999

Location	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Public Roadway	2	21	8	31	28.2
Ditches	1	12	4	17	15.4
River/Lake	1	11	2	14	12.7
Field	1	7	2	10	9.1
Bush Trails/Winter Road	1	3	3	7	6.4
Farm Yard/Private Property	0	7	1	8	7.3
Marked/Groom Trails	0	4	3	7	6.4
Parking Lot	0	0	0	0	0.0
Lakeshore	2	3	0	5	4.5
Floodway/Diversion	0	0	1	1	0.9
Not Stated	0	8	2	10	9.1
Total	8	76	26	110	100.0

Most off-road vehicle accidents (56.3%) were known to have occurred on “public roadways” (28.2%), “ditches” (15.4%), and “river/lake” (12.7%).

Distribution of Total Off-Road Vehicle Collisions
by Collision Location
1999



Off-Road Vehicle Collision Victims by Age Group, Injury Type, and Sex 1999

Age Group	Injury Type						Total Victims
	Killed			Injured			
	Male	Female	Total	Male	Female	Total	
0-4	0	0	0	1	0	1	1
5-9	0	0	0	1	3	4	4
10-14	0	0	0	7	5	12	12
15-19	0	1	1	14	2	16	17
20-24	1	0	1	14	2	16	17
25-34	2	0	2	18	4	22	24
35-44	1	0	1	7	6	13	14
45-54	1	0	1	4	1	5	6
55-64	0	0	0	1	1	2	2
65>	1	0	1	0	1	1	2
Not Stated	1	0	1	2	2	4	5
Total	7	1	8	69	27	96	104

Male victims made up 73.1% (76) of all persons killed or injured, whereas females made up 26.9% (28). Of the 99 victims whose ages were known, the age group 25-34 (24.2%), 15-19 (17.2%) and 20-24 (17.2%) had the highest number of off-road collision victims killed or injured.

Off-Road Vehicle Collision Victims by Safety Equipment and Injury Type 1999

Safety Equipment	Injury Type		Total Victims
	Killed	Injured	
Safety Helmet Worn	2	34	36
Safety Helmet Not Worn	3	36	39
Not Stated	3	20	23
Not Applicable	0	6	6
Total	8	96	104

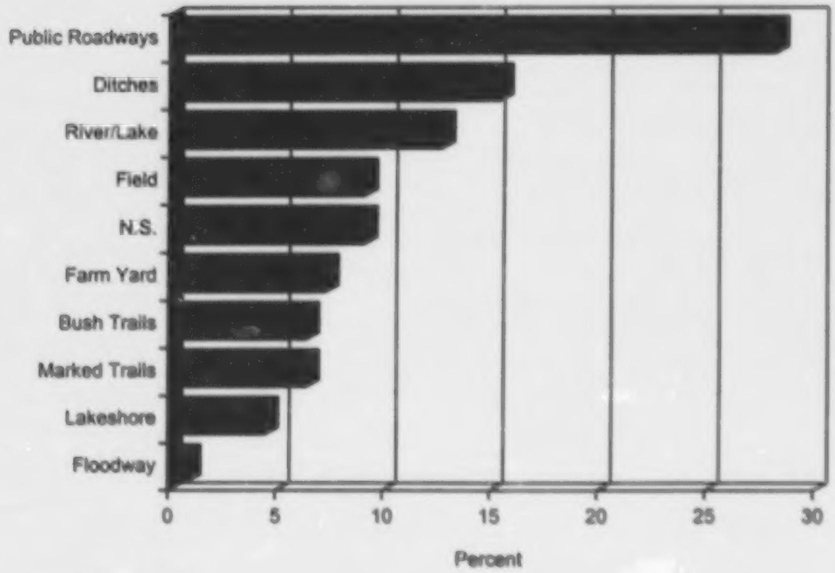
Of the total number of off-road vehicle collision victims, 37.5% (39) were reported as not wearing a safety helmet at time of collision occurrence. Safety helmet usage was unknown for a further 22.1%.

By Collision Location and Collision Type
1999

Location	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Public Roadway	2	21	8	31	28.2
Ditches	1	12	4	17	15.4
River/Lake	1	11	2	14	12.7
Field	1	7	2	10	9.1
Bush Trails/Winter Road	1	3	3	7	6.4
Farm Yard/Private Property	0	7	1	8	7.3
Marked/Groom Trails	0	4	3	7	6.4
Parking Lot	0	0	0	0	0.0
Lakeshore	2	3	0	5	4.5
Floodway/Diversion	0	0	1	1	0.9
Not Stated	0	8	2	10	9.1
Total	8	76	26	110	100.0

Most off-road vehicle accidents (56.3%) were known to have occurred on "public roadways" (28.2%), "ditches" (15.4%), and "river/lake" (12.7%).

Distribution of Total Off-Road Vehicle Collisions
by Collision Location
1999



Off-Road Vehicle Collision Victims
by Age Group, Injury Type, and Sex
1999

Age Group	Injury Type						Total Victims
	Killed			Injured			
	Male	Female	Total	Male	Female	Total	
0-4	0	0	0	1	0	1	1
5-9	0	0	0	1	3	4	4
10-14	0	0	0	7	5	12	12
15-19	0	1	1	14	2	16	17
20-24	1	0	1	14	2	16	17
25-34	2	0	2	18	4	22	24
35-44	1	0	1	7	6	13	14
45-54	1	0	1	4	1	5	6
55-64	0	0	0	1	1	2	2
65>	1	0	1	0	1	1	2
Not Stated	1	0	1	2	2	4	5
Total	7	1	8	69	27	96	104

Male victims made up 73.1% (76) of all persons killed or injured, whereas females made up 26.9% (28). Of the 99 victims whose ages were known, the age group 25-34 (24.2%), 15-19 (17.2%) and 20-24 (17.2%) had the highest number of off-road collision victims killed or injured.

Off-Road Vehicle Collision Victims
by Safety Equipment and Injury Type
1999

Safety Equipment	Injury Type		Total Victims
	Killed	Injured	
Safety Helmet Worn	2	34	36
Safety Helmet Not Worn	3	36	39
Not Stated	3	20	23
Not Applicable	0	6	6
Total	8	96	104

Of the total number of off-road vehicle collision victims, 37.5% (39) were reported as not wearing a safety helmet at time of collision occurrence. Safety helmet usage was unknown for a further 22.1%.

Driver Involvement
by Driver Action and Collision Type
1999

Driver Action	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Drive Properly [1]	3	25	17	45	32.4
Follow Too Closely	0	2	0	2	1.4
Drive Too Fast For Conditions	1	14	0	15	10.8
Unsafe Operating Speed	0	6	0	6	4.3
Pass Improperly	0	1	0	1	0.7
Fail to Yield	0	1	1	2	1.4
Disobey Traffic Control	1	3	0	4	2.9
Drive Wrong Way	0	2	0	2	1.4
Back Unsafely	0	1	0	1	0.7
Careless Driving	2	1	2	5	3.6
Lost Control/Drive off Roadway	0	11	2	13	9.4
Take Avoiding Action	1	1	1	3	2.2
Driver Inexperience	0	7	1	8	5.8
Not Stated	1	22	9	32	23.0
Total	9	97	33	139	100.0

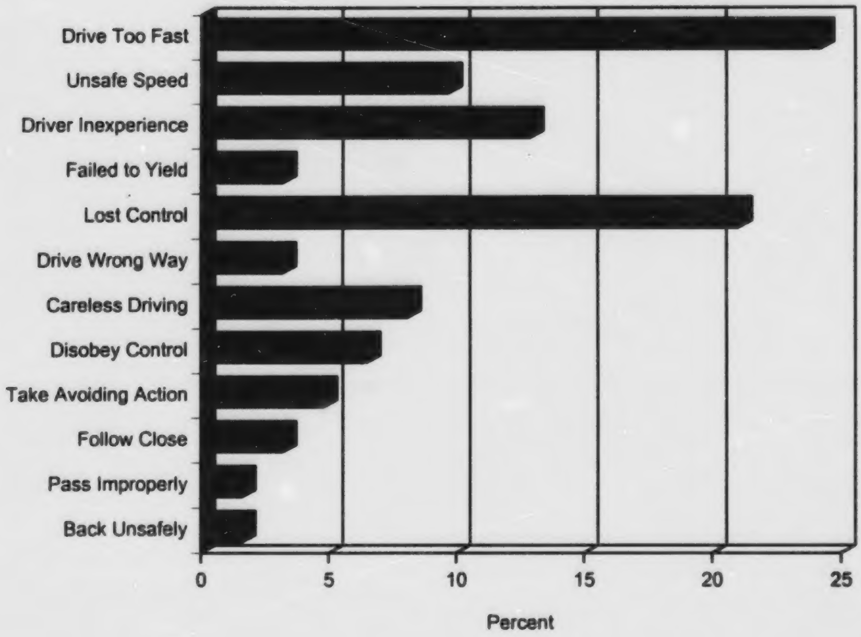
[1] No apparent improper driving action.

Driver Involvement
by Driver Action and Collision Type
1999

Driver Action	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Drive Properly [1]	3	25	17	45	32.4
Follow Too Closely	0	2	0	2	1.4
Drive Too Fast For Conditions	1	14	0	15	10.8
Unsafe Operating Speed	0	6	0	6	4.3
Pass Improperly	0	1	0	1	0.7
Fail to Yield	0	1	1	2	1.4
Disobey Traffic Control	1	3	0	4	2.9
Drive Wrong Way	0	2	0	2	1.4
Back Unsafely	0	1	0	1	0.7
Careless Driving	2	1	2	5	3.6
Lost Control/Drive off Roadway	0	11	2	13	9.4
Take Avoiding Action	1	1	1	3	2.2
Driver Inexperience	0	7	1	8	5.8
Not Stated	1	22	9	32	23.0
Total	9	97	33	139	100.0

[1] No apparent improper driving action.

Comparison of At-Fault Driver Actions in Off-Road Vehicle Collisions
1999



Driver error or misjudgement was reported for 44.6% of total drivers involved in off-road traffic collisions. "Drive too fast for conditions" (24.2%), "lost control/drive off roadway" (21.0%) and "driver inexperience" (12.9%) were the most frequently identified driver actions contributing to off-road vehicle collisions.

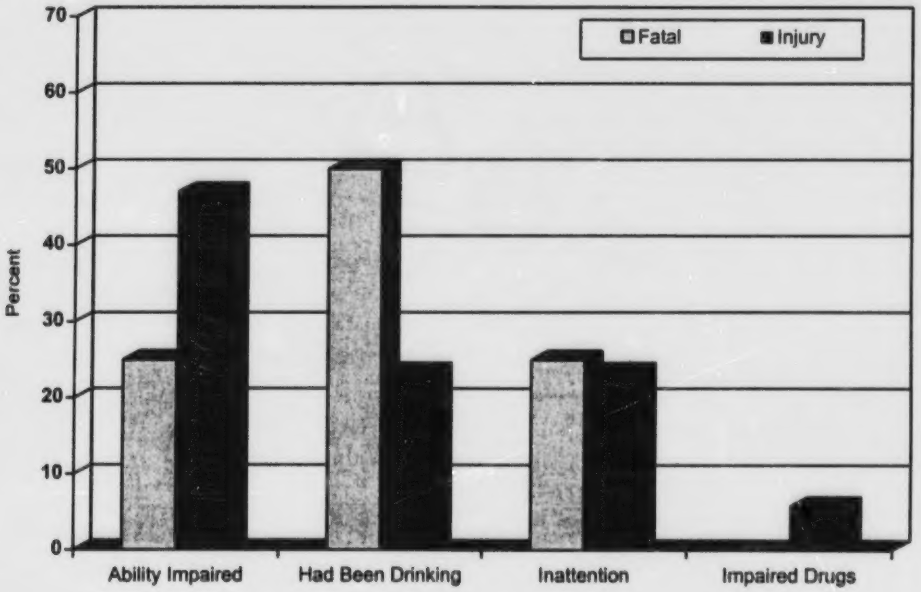
Driver Involvement
by At-Fault Human Condition Factors and Collision Type
1999

Human Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Apparently Normal	2	54	22	78	56.1
Distraction/Inattention	1	4	1	6	4.3
Ability Impaired by Alcohol	1	8	0	9	6.5
Had Been Drinking/Suspected Alcohol Use[1]	2	4	0	6	4.3
Ability Impaired by Drugs	0	1	0	1	0.7
Not Stated	3	26	10	39	28.1
Total	9	97	33	139	100.0

1. These statistics are understated and represent only those collisions where alcohol involvement was apparent.

Of the 139 drivers involved in off-road vehicle collisions, 22 or 15.8% were cited with having at-fault human condition factors that lead to collision causation. Of the 9 drivers involved in fatal off-road vehicle collisions, 4 or 44.4% were cited with at-fault human condition factors. Overall, "ability impaired by alcohol", "distraction/inattention", and "had been/suspected alcohol use" were reported as the most common at-fault human condition factors involved in collision causation.

Comparison of At-Fault Human Condition Factors
by Fatal and Injury Collision Type
1999

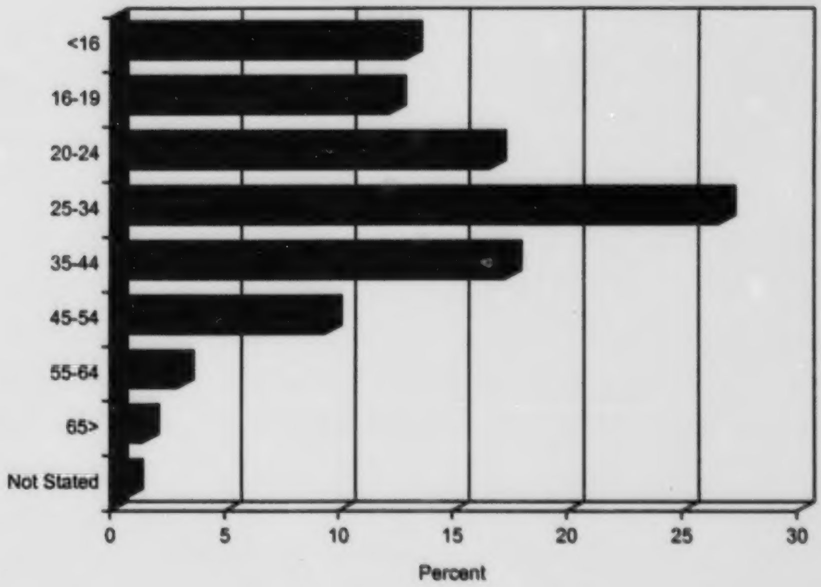


Driver Involvement
by Age Group and Collision Type
1999

Age Group	Collision Type			Total	%
	Fatal	Injury	P. Damage		
<16	1	15	2	18	12.9
16-19	0	14	3	17	12.2
20-24	2	16	5	23	16.6
25-34	3	24	10	37	26.6
35-44	1	16	7	24	17.3
45-54	1	7	5	13	9.4
55-64	0	3	1	4	2.9
65>	1	1	0	2	1.4
Not Stated	0	1	0	1	0.7
Total	9	97	33	139	100.0

Of the total number of drivers involved in off-road vehicle collisions, 43.9% were between the ages of 25 to 44, 28.8% were 16-24, 13.7% were over the age of 44 years and 12.9% were under 16 years of age.

Distribution of Total Driver Involvement in Off-Road Vehicle Collisions
by Age Group
1999



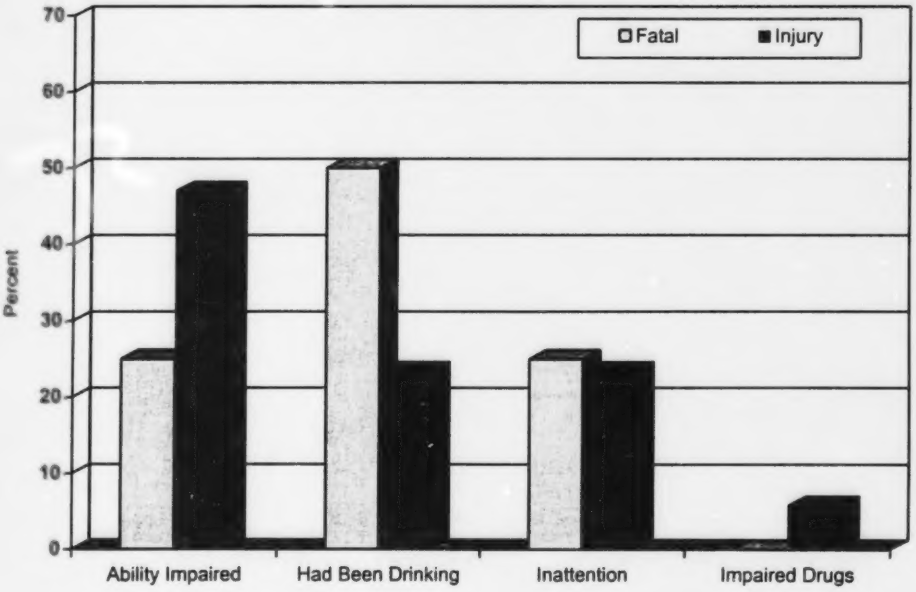
Driver Involvement
by At-Fault Human Condition Factors and Collision Type
1999

Human Condition	Collision Type			Total	%
	Fatal	Injury	P. Damage		
Apparently Normal	2	54	22	78	56.1
Distraction/Inattention	1	4	1	6	4.3
Ability Impaired by Alcohol	1	8	0	9	6.5
Had Been Drinking/Suspected Alcohol Use[1]	2	4	0	6	4.3
Ability Impaired by Drugs	0	1	0	1	0.7
Not Stated	3	26	10	39	28.1
Total	9	97	33	139	100.0

[1] These statistics are understated and represent only those collisions where alcohol involvement was apparent.

Of the 139 drivers involved in off-road vehicle collisions, 22 or 15.8% were cited with having at-fault human condition factors that lead to collision causation. Of the 9 drivers involved in fatal off-road vehicle collisions, 4 or 44.4% were cited with at-fault human condition factors. Overall, "ability impaired by alcohol", "distraction/inattention", and "had been/suspected alcohol use" were reported as the most common at-fault human condition factors involved in collision causation.

Comparison of At-Fault Human Condition Factors
by Fatal and Injury Collision Type
1999

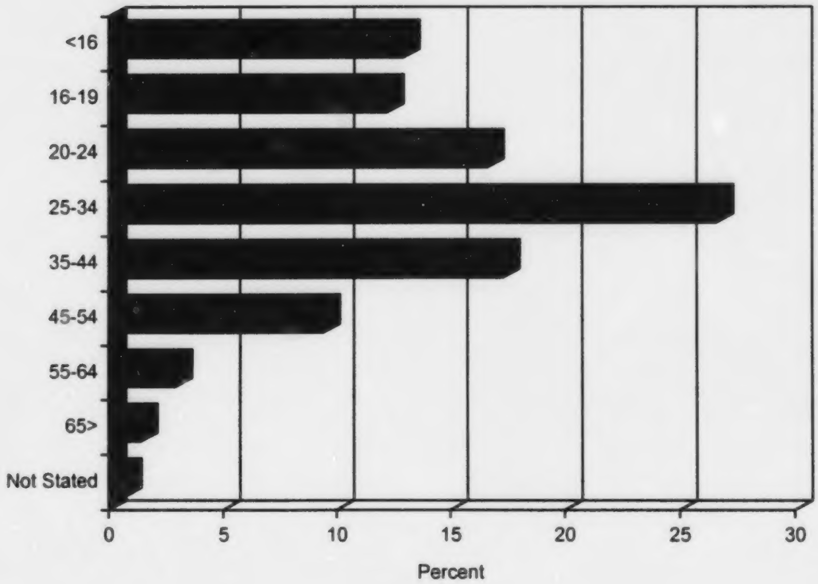


Driver Involvement
by Age Group and Collision Type
1999

Age Group	Collision Type			Total	%
	Fatal	Injury	P. Damage		
<16	1	15	2	18	12.9
16-19	0	14	3	17	12.2
20-24	2	16	5	23	16.6
25-34	3	24	10	37	26.6
35-44	1	16	7	24	17.3
45-54	1	7	5	13	9.4
55-64	0	3	1	4	2.9
65>	1	1	0	2	1.4
Not Stated	0	1	0	1	0.7
Total	9	97	33	139	100.0

Of the total number of drivers involved in off-road vehicle collisions, 43.9% were between the ages of 25 to 44, 28.8% were 16-24, 13.7% were over the age of 44 years and 12.9% were under 16 years of age.

Distribution of Total Driver Involvement in Off-Road Vehicle Collisions
by Age Group
1999



Section 12

Alcohol-Related Criminal Code Offences

Total Alcohol-Related Criminal Code Offences by Accident/No Accident Involvement 1984 – 1998[1]

Year	Alcohol Content Over .08		Impaired Driving				Refuse Sample		Total
	253-B		253-A		255-2	255.3	254-5		
	No Accident	With Accident	No Accident	With Accident	Injury	Death	No Accident	With Accident	
1984	4045	525	461	100	0	0	501	95	5727
1985	4110	543	474	133	0	0	587	80	5927
1986	3802	528	490	132	22	4	560	113	5651
1987	3699	580	503	120	29	2	563	108	5604
1988	3395	535	467	146	33	2	559	115	5252
1989	3392	494	370	110	33	6	484	95	4984
1990	3276	421	332	73	28	2	411	73	4616
1991	3339	373	321	52	44	2	398	62	4591
1992	2683	335	269	55	41	3	321	45	3752
1993	2210	308	282	52	29	3	274	59	3217
1994	2208	308	344	61	34	2	292	70	3319
1995	2298	180	366	39	25	3	227	37	3175
1996	2133	134	303	31	24	0	227	23	2875
1997	2378	141	338	28	37	3	250	27	3202
1998	2413	74	377	27	36	1	274	17	3219
% Change 97-98	+1.5	-47.5	+11.5	-3.6	-2.7	-66.7	+9.6	-37.0	+0.5

1. Driver and Vehicle Licencing's alcohol statistic collection is structured to accommodate a "two-year" updating period due to a potential backlog in the court process. Consequently, there is a one-year delay in reporting alcohol statistics.

Overall, there has been a 43.8% decrease in the number of alcohol-related Criminal Code offences between 1984 and 1998, 5,727 to 3,219 respectively. Possible reasons for the decrease include the introduction of stiffer penalties in 1986 and Manitoba's countermeasure program in 1989. These penalties may have accounted for an immediate 4.7% (276) decrease between 1985 and 1986, and a further decrease of 11.8% (667) between 1986 and 1989. Manitoba's countermeasure program may also have initiated a decrease of 7.4% (368) from 4,984 in 1989 to 4,616 in 1990 and a further 30.3% (1,397) decline to 3,219 in 1998. The level of law enforcement may also be a factor.

Total Alcohol-Related Criminal Code Offences
by Accident/No Accident Involvement
1984 – 1998[1]

Year	Alcohol Content Over .08		Impaired Driving				Refuse Sample		Total
	253-B		253-A		255-2	255.3	254-5		
	No Accident	With Accident	No Accident	With Accident	Injury	Death	No Accident	With Accident	
1984	4045	525	461	100	0	0	501	95	5727
1985	4110	543	474	133	0	0	587	80	5927
1986	3802	528	490	132	22	4	560	113	5651
1987	3699	580	503	120	29	2	563	108	5604
1988	3395	535	467	146	33	2	559	115	5252
1989	3392	494	370	110	33	6	484	95	4984
1990	3276	421	332	73	28	2	411	73	4616
1991	3339	373	321	52	44	2	398	62	4591
1992	2683	335	269	55	41	3	321	45	3752
1993	2210	308	282	52	29	3	274	59	3217
1994	2208	308	344	61	34	2	292	70	3319
1995	2298	180	366	39	25	3	227	37	3175
1996	2133	134	303	31	24	0	227	23	2875
1997	2378	141	338	28	37	3	250	27	3202
1998	2413	74	377	27	36	1	274	17	3219
% Change 97-98	+1.5	-47.5	+11.5	-3.6	-2.7	-66.7	+9.6	-37.0	+0.5

1. Driver and Vehicle Licencing's alcohol statistic collection is structured to accommodate a "two-year" updating period due to a potential backlog in the court process. Consequently, there is a one-year delay in reporting alcohol statistics.

Overall, there has been a 43.8% decrease in the number of alcohol-related Criminal Code offences between 1984 and 1998, 5,727 to 3,219 respectively. Possible reasons for the decrease include the introduction of stiffer penalties in 1986 and Manitoba's countermeasure program in 1989. These penalties may have accounted for an immediate 4.7% (276) decrease between 1985 and 1986, and a further decrease of 11.8% (667) between 1986 and 1989. Manitoba's countermeasure program may also have initiated a decrease of 7.4% (368) from 4,984 in 1989 to 4,616 in 1990 and a further 30.3% (1,397) decline to 3,219 in 1998. The level of law enforcement may also be a factor.

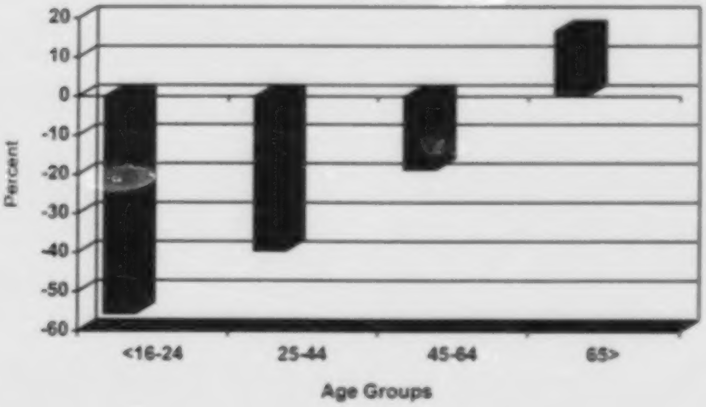
Total Alcohol-Related Criminal Code Offences[1]
by Age Group
1987-1998

Age Group	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% Change 87-98
<16	12	6	9	10	12	4	7	5	3	7	7	7	-41.7
16-17	169	156	124	119	104	86	64	49	82	66	105	109	-35.5
18-20	784	654	622	583	520	426	286	363	364	366	430	349	-55.5
21-24	1093	945	909	744	709	606	494	473	471	388	495	448	-59.0
25-29	1061	1066	983	940	923	667	584	553	518	447	451	495	-53.3
30-34	801	745	755	704	728	624	543	566	547	394	440	459	-42.7
35-39	541	552	516	538	527	431	402	435	422	387	440	455	-15.9
40-44	441	416	392	341	389	365	292	288	278	267	302	306	-30.6
45-49	254	271	242	223	240	206	194	205	177	208	201	227	-10.6
50-54	179	174	163	179	176	129	146	138	111	151	130	163	-8.9
55-59	125	130	133	92	110	83	79	88	86	71	78	82	-34.4
60-64	84	83	65	73	71	62	67	86	59	66	50	49	-41.7
65-69	38	38	46	46	47	42	31	42	33	32	44	39	+2.6
70-74	14	12	19	19	26	13	22	24	11	10	18	25	+78.6
75>	8	4	6	5	9	8	6	4	13	15	11	6	-25.0
Total	5604	5252	4984	4616	4591	3752	3217	3319	3175	2875	3202	3219	-42.6

1. Includes alcohol content over .08, impaired driving, impaired driving causing injury and/or death, and refuse sample.

Between 1987 and 1998, the number of alcohol-related Criminal Code offences declined substantially by 42.6% from 5,604 to 3,219. All age groups between 16 and 65 recorded declines in total alcohol-related Criminal Code offences between 1987and 1998. These ranged from substantial declines of 59.0% and 55.5% for those aged 21-24 and 18-20 respectively to significant declines of 8.9% and 10.6% for the 50-54 and 45-49 age groups respectively.

Comparison of Percentage Change Statistics by Selected Age Groups
1987 - 1998



Comparison of Alcohol-Related Criminal Code Offences by Active Licenced Drivers and Selected Age Group 1986, 1990 and 1998[1]

Age Group	1986			1990			1998		
	Total Alcohol	% Total Alcohol	% Active Licenced Drivers	Total Alcohol	% Total Alcohol	% Active Licenced Drivers	Total Alcohol	% Total Alcohol	% Active Licenced Drivers
16-24[2]	2090	37.0	19.1	1456	31.5	16.3	9133	28.3	14.6
25-44	2837	50.2	45.6	2523	54.7	46.4	1715	53.3	41.1
45-64	661	11.7	24.4	567	12.3	25.0	521	16.2	29.9
65>	63	1.1	10.9	70	1.5	12.3	70	2.2	14.4
Total	5651	100.0	100.0	4616	100.0	100.0	3219	100.0	100.0

[1] Years chosen to reflect changes to Criminal Code penalties and the introduction of Manitoba's countermeasure program.

[2] Includes statistics for individuals under the age of 16 who have been convicted of alcohol-related Criminal Code offence but who are not licenced drivers.

Certain age groups are over-represented in alcohol-related Criminal Code offences. In 1986, for example, 16 to 24 year old drivers made up 19.1% of all licenced drivers, but accounted for 37.0% of all drivers convicted of an alcohol-related Criminal Code offence. In 1998, the 16 to 24 year old age group accounted for 14.6% of licenced drivers and 28.3% of all drivers convicted of an alcohol offence.

Drivers between the ages of 25 to 44 years continue to have the highest incidence of alcohol-related Criminal Code offences and the highest percentage of licence drivers. Drivers in this group made up 45.6%, 46.4% and 41.1% of the total number of licenced drivers and accounted for 50.2% (2,837), 54.6% (2,523) and 53.3% (1,715) of the total number of Criminal Code offences in the years 1986, 1990, and 1998 respectively.

Drivers in the age group 45-64 made up 24.4%, 25.0% and 29.9% of the licenced drivers and accounted for 11.7% (661), 12.3% (567) and 16.2% (521) of the total number of Criminal Code offences in 1986, 1990 and 1998 respectively.

Older drivers are likely to be under-represented in alcohol-related Criminal Code offences. Drivers over 64 made up 10.9%, 12.3% and 14.4% of the total licenced drivers but accounted for only 1.1% (63), 1.6% (73) and 2.2% (70) of the total number of Criminal Code offences in 1986, 1990 and 1998.

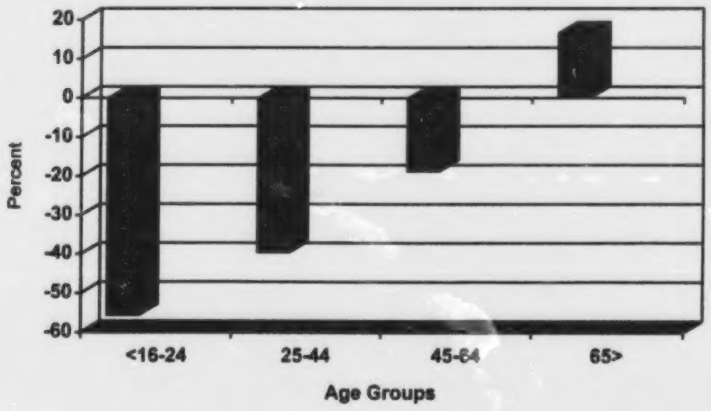
Total Alcohol-Related Criminal Code Offences[1]
by Age Group
1987-1998

Age Group	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% Change 87-98
<16	12	6	9	10	12	4	7	5	3	7	7	7	-41.7
16-17	169	156	124	119	104	86	64	49	82	66	105	109	-35.5
18-20	784	654	622	583	520	426	286	363	364	366	430	349	-55.5
21-24	1093	945	909	744	709	606	494	473	471	388	495	448	-59.0
25-29	1061	1066	983	940	923	667	584	553	518	447	451	495	-53.3
30-34	801	745	755	704	728	624	543	566	547	394	440	459	-42.7
35-39	541	552	516	538	527	431	402	435	422	387	440	455	-15.9
40-44	441	416	392	341	389	365	292	288	278	267	302	306	-30.6
45-49	254	271	242	223	240	206	194	205	177	208	201	227	-10.6
50-54	179	174	163	179	176	129	146	138	111	151	130	163	-8.9
55-59	125	130	133	92	110	83	79	88	86	71	78	82	-34.4
60-64	84	83	65	73	71	62	67	86	59	66	50	49	-41.7
65-69	38	38	46	46	47	42	31	42	33	32	44	39	+2.6
70-74	14	12	19	19	26	13	22	24	11	10	18	25	+78.6
75>	8	4	6	5	9	8	6	4	13	15	11	6	-25.0
Total	5604	5252	4984	4616	4591	3752	3217	3319	3175	2875	3202	3219	-42.6

[1] Includes alcohol content over .08, impaired driving, impaired driving causing injury and/or death, and refuse sample.

Between 1987 and 1998, the number of alcohol-related Criminal Code offences declined substantially by 42.6% from 5,604 to 3,219. All age groups between 16 and 65 recorded declines in total alcohol-related Criminal Code offences between 1987and 1998. These ranged from substantial declines of 59.0% and 55.5% for those aged 21-24 and 18-20 respectively to significant declines of 8.9% and 10.6% for the 50-54 and 45-49 age groups respectively.

Comparison of Percentage Change Statistics by Selected Age Groups
1987 - 1998



Comparison of Alcohol-Related Criminal Code Offences by Active Licenced Drivers and Selected Age Group 1986, 1990 and 1998[1]

Age Group	1986			1990			1998		
	Total Alcohol	% Total Alcohol	% Active Licenced Drivers	Total Alcohol	% Total Alcohol	% Active Licenced Drivers	Total Alcohol	% Total Alcohol	% Active Licenced Drivers
16-24[2]	2090	37.0	19.1	1456	31.5	16.3	9133	28.3	14.6
25-44	2837	50.2	45.6	2523	54.7	46.4	1715	53.3	41.1
45-64	661	11.7	24.4	567	12.3	25.0	521	16.2	29.9
65>	63	1.1	10.9	70	1.5	12.3	70	2.2	14.4
Total	5651	100.0	100.0	4616	100.0	100.0	3219	100.0	100.0

1. Years chosen to reflect changes to Criminal Code penalties and the introduction of Manitoba's countermeasure program.
2. Includes statistics for individuals under the age of 16 who have been convicted of alcohol-related Criminal Code offence but who are not licenced drivers.

Certain age groups are over-represented in alcohol-related Criminal Code offences. In 1986, for example, 16 to 24 year old drivers made up 19.1% of all licenced drivers, but accounted for 37.0% of all drivers convicted of an alcohol-related Criminal Code offence. In 1998, the 16 to 24 year old age group accounted for 14.6% of licenced drivers and 28.3% of all drivers convicted of an alcohol offence.

Drivers between the ages of 25 to 44 years continue to have the highest incidence of alcohol-related Criminal Code offences and the highest percentage of licence drivers. Drivers in this group made up 45.6%, 46.4% and 41.1% of the total number of licenced drivers and accounted for 50.2% (2,837), 54.6% (2,523) and 53.3% (1,715) of the total number of Criminal Code offences in the years 1986, 1990, and 1998 respectively.

Drivers in the age group 45-64 made up 24.4%, 25.0% and 29.9% of the licenced drivers and accounted for 11.7% (661), 12.3% (567) and 16.2% (521) of the total number of Criminal Code offences in 1986, 1990 and 1998 respectively.

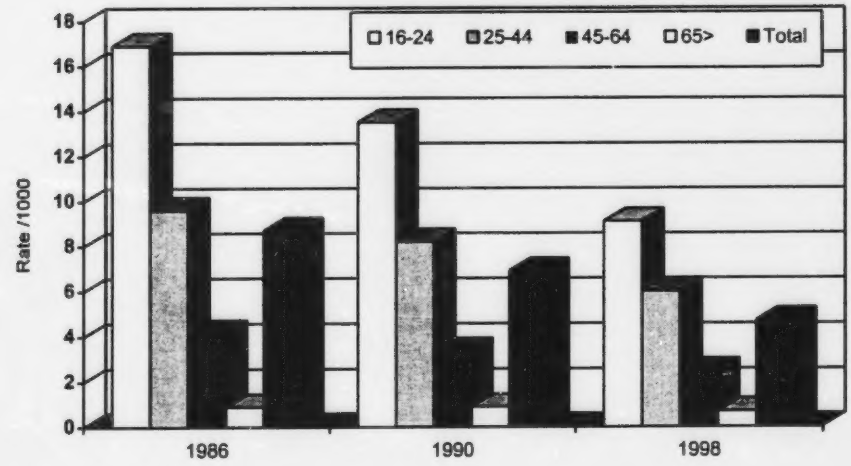
Older drivers are likely to be under-represented in alcohol-related Criminal Code offences. Drivers over 64 made up 10.9%, 12.3% and 14.4% of the total licenced drivers but accounted for only 1.1% (63), 1.6% (73) and 2.2% (70) of the total number of Criminal Code offences in 1986, 1990 and 1998.

Ratio of Alcohol-Related Criminal Code Offences to Licenced Drivers by Selected Age Groups
1986, 1990 and 1998

Age Group	1986			1990			1998		
	Alcohol Offences [1]	Licenced Drivers	Rate /1000	Alcohol Offences	Licenced Drivers	Rate /1000	Alcohol Offences	Licenced Drivers	Rate /1000
<16-24	2090	123707	16.9	1456	108060	13.5	913	100754	9.1
25-44	2837	294105	9.6	2523	308301	8.2	1715	285253	6.0
45-64	661	157412	4.2	567	166000	3.4	521	207012	2.5
65>	63	70251	0.9	70	82203	0.9	70	99922	0.7
Total	5651	645475	8.7	4616	664564	6.9	3219	692941	4.7

1. For comparative purposes the report assumes each alcohol-related Criminal Code conviction is for a single licenced driver although a single driver may obtain more than one alcohol-related Criminal Code conviction in any given year.

Comparison of Relative Involvement Rate /1000 by Age Groups
1986, 1990 and 1998



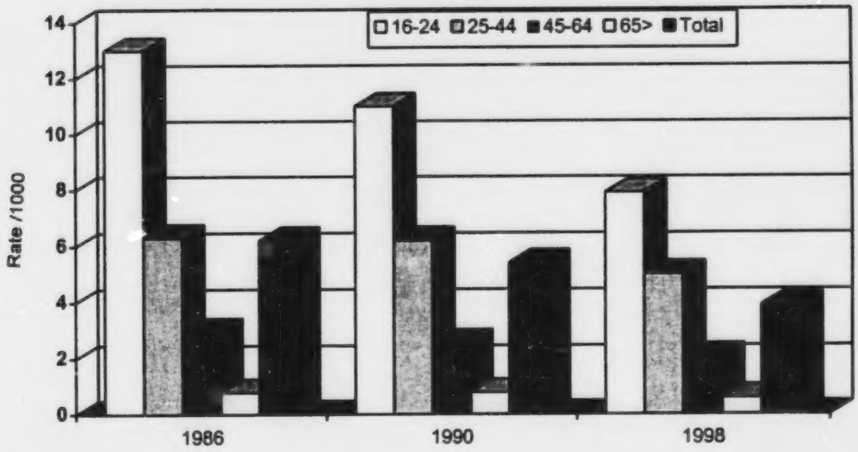
- For the period examined, drivers convicted of alcohol related offences decreased by 43.0% from 5,651 in 1986 to 3,219 in 1998.
- For every 1,000 licenced drivers within the age range of 16-24, there were 16.9, 13.5 and 9.1 drivers who had committed an alcohol-related Criminal Code offence for each respective year. The 1998 rate for this age group was 46.2% below the 1986 rate.
- The rates for young drivers are one and a half times the rate for the 25-44 year old drivers, 9.6, 8.2 and 5.7 and almost four times as high than drivers in the age group 45-64, at 4.2, 3.4 and 2.5.
- The 65 and older drivers have the lowest rate of involvement per 1,000 drivers, 0.9 in both 1986 and 1990 and 0.7 in 1998.

Driver Involvement in First Occurrence Alcohol-Related Criminal Code Offences by Age group 1986, 1990 and 1998

Age Group	1986			1990			1998		
	Alcohol Offences [1]	Licenced Drivers	Rate /1000	Alcohol Offences	Licenced Drivers	Rate /1000	Alcohol Offences	Licenced Drivers	Rate /1000
<16-24	1606	123707	13.0	1185	108060	11.0	793	100754	7.9
25-44	1874	294105	6.3	1917	308301	6.2	1422	285253	5.0
45-64	476	157412	3.0	436	166000	2.6	443	207012	2.1
65>	57	70251	0.8	63	82203	0.8	59	99922	0.6
Total	4013	645475	6.0	3601	664564	5.4	2717	692941	3.9

[1] *For comparative purposes the report assumes each alcohol-related Criminal Code conviction is for a single licenced driver although a single driver may obtain more than one alcohol-related Criminal Code conviction in any given year.*

Comparison of First Occurrence Relative Involvement Rate /1000 by Age Groups 1986, 1990 and 1998



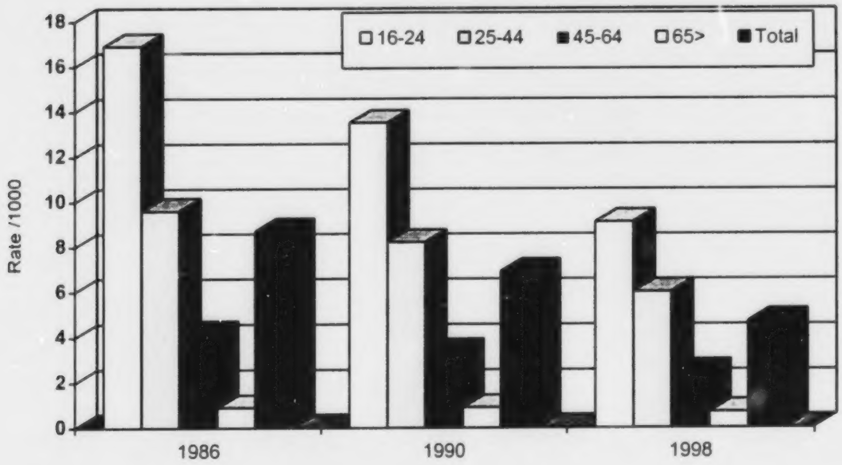
- The number of drivers convicted of first offence alcohol-related convictions decreased by 32.3% from 4,013 in 1986 to 2,717 in 1998.
- Comparing the rates for 1986 and 1998, there was a 39.2% drop for the <16-24 group, 20.6% decrease for the 25-44 group, 30.0% decrease for the 45-64 age group, and a 25.0% decrease for the 65> age group.
- For every 1,000 licenced drivers within the age range of <16-24, there are 13.0, 11.0 and 7.9 drivers who have committed an alcohol-related offence in each respective year. The relative involvement rate for these young drivers is nearly double the rate for the 25-44 year old drivers, 6.3, 6.2 and 5.0 and three times as high than drivers in the age group 45-64, 3.0, 2.6 and 2.1. The 65 and older drivers have the lowest rate of involvement per 1,000 drivers, 0.8 in both 1986 and 1990, and 0.6 in 1998.

Ratio of Alcohol-Related Criminal Code Offences to Licenced Drivers by Selected Age Groups
1986, 1990 and 1998

Age Group	1986			1990			1998		
	Alcohol Offences[1]	Licenced Drivers	Rate /1000	Alcohol Offences	Licenced Drivers	Rate /1000	Alcohol Offences	Licenced Drivers	Rate /1000
<16-24	2090	123707	16.9	1456	108060	13.5	913	100754	9.1
25-44	2837	294105	9.6	2523	308301	8.2	1715	285253	6.0
45-64	661	157412	4.2	567	166000	3.4	521	207012	2.5
65>	63	70251	0.9	70	82203	0.9	70	99922	0.7
Total	5651	645475	8.7	4616	664564	6.9	3219	692941	4.7

[1] *For comparative purposes the report assumes each alcohol-related Criminal Code conviction is for a single licenced driver although a single driver may obtain more than one alcohol-related Criminal Code conviction in any given year.*

Comparison of Relative Involvement Rate /1000 by Age Groups
1986, 1990 and 1998



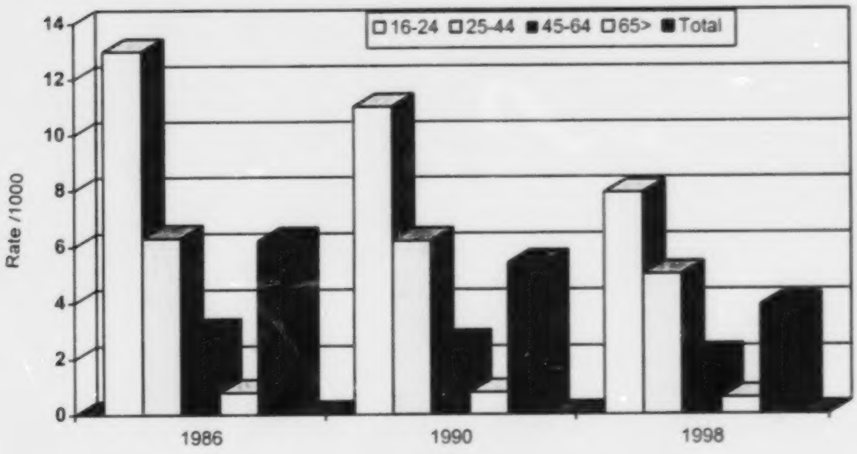
- For the period examined, drivers convicted of alcohol related offences decreased by 43.0% from 5,651 in 1986 to 3,219 in 1998.
- For every 1,000 licenced drivers within the age range of 16-24, there were 16.9, 13.5 and 9.1 drivers who had committed an alcohol-related Criminal Code offence for each respective year. The 1998 rate for this age group was 46.2% below the 1986 rate.
- The rates for young drivers are one and a half times the rate for the 25-44 year old drivers, 9.6, 8.2 and 5.7 and almost four times as high than drivers in the age group 45-64, at 4.2, 3.4 and 2.5.
- The 65 and older drivers have the lowest rate of involvement per 1,000 drivers, 0.9 in both 1986 and 1990 and 0.7 in 1998.

Driver Involvement in First Occurrence Alcohol-Related Criminal Code Offences by Age group 1986, 1990 and 1998

Age Group	1986			1990			1998		
	Alcohol Offences [1]	Licenced Drivers	Rate /1000	Alcohol Offences	Licenced Drivers	Rate /1000	Alcohol Offences	Licenced Drivers	Rate /1000
<16-24	1606	123707	13.0	1185	108060	11.0	793	100754	7.9
25-44	1874	294105	6.3	1917	308301	6.2	1422	285253	5.0
45-64	476	157412	3.0	436	166000	2.6	443	207012	2.1
65>	57	70251	0.8	63	82203	0.8	59	99922	0.6
Total	4013	645475	6.0	3601	664564	5.4	2717	692941	3.9

1. For comparative purposes the report assumes each alcohol-related Criminal Code conviction is for a single licenced driver although a single driver may obtain more than one alcohol-related Criminal Code conviction in any given year.

Comparison of First Occurrence Relative Involvement Rate /1000 by Age Groups 1986, 1990 and 1998



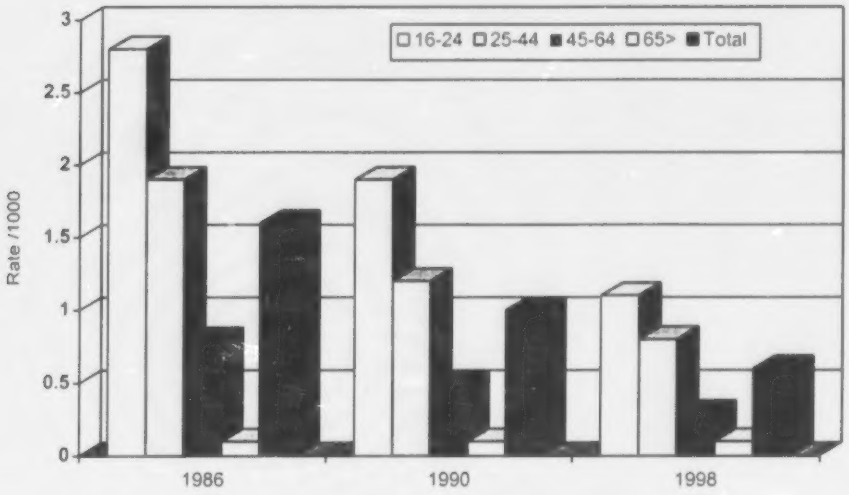
- The number of drivers convicted of first offence alcohol-related convictions decreased by 32.3% from 4,013 in 1986 to 2,717 in 1998.
- Comparing the rates for 1986 and 1998, there was a 39.2% drop for the <16-24 group, 20.6% decrease for the 25-44 group, 30.0% decrease for the 45-64 age group, and a 25.0% decrease for the 65> age group.
- For every 1,000 licenced drivers within the age range of <16-24, there are 13.0, 11.0 and 7.9 drivers who have committed an alcohol-related offence in each respective year. The relative involvement rate for these young drivers is nearly double the rate for the 25-44 year old drivers, 6.3, 6.2 and 5.0 and three times as high than drivers in the age group 45-64, 3.0, 2.6 and 2.1. The 65 and older drivers have the lowest rate of involvement per 1,000 drivers, 0.8 in both 1986 and 1990, and 0.6 in 1998.

Driver Involvement in Second Occurrence Alcohol-Related Criminal Code Offences by Age Group 1986, 1990 and 1998

Age Group	1986			1990			1998		
	Alcohol [1] Convictions	Licenced Drivers	Rate /1000	Alcohol Convictions	Licenced Drivers	Rate /1000	Alcohol Convictions	Licenced Drivers	Rate /1000
<16-24	350	123707	2.8	204	108060	1.9	107	100754	1.1
25-44	551	294105	1.9	373	308301	1.2	217	285253	0.8
45-64	121	157412	0.8	88	166000	0.5	66	207012	0.3
65>	4	70251	0.1	6	82203	0.1	7	99922	0.1
Total	1026	645475	1.6	671	664564	1.0	397	692941	0.6

1. For comparative purposes, the report assumes each alcohol-related Criminal Code conviction is for a single licenced driver although a single driver may obtain more than one alcohol-related Criminal Code conviction in any given year.

Comparison of Second Occurrence Relative Involvement Rate /1000 by Age Groups 1986, 1990 and 1998



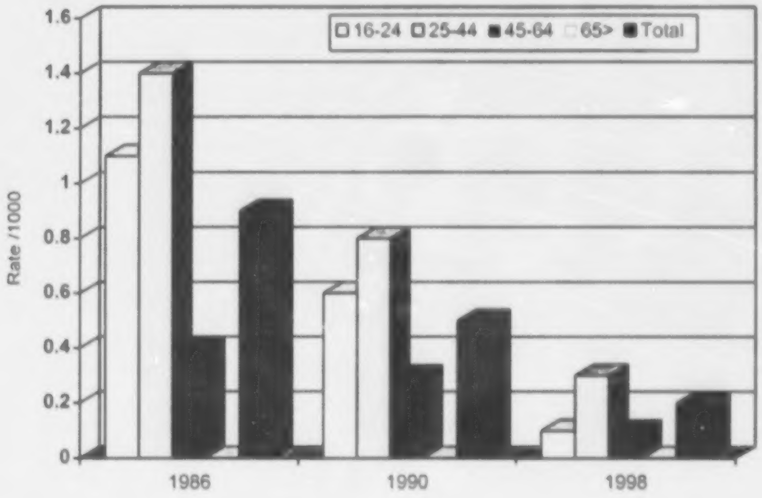
- Overall, the total number of drivers convicted of second offence alcohol-related Criminal Code offences decreased by 61.3% from 1,026 in 1986 to 397 in 1998.
- The rate for drivers in the highest involved age group <16-24 dropped 69.4% from 350 in 1986 to 107 in 1998. Similarly, the second ranked age group 25-44 recorded a 60.6% decrease from 551 in 1986 to 217 in 1998.
- For every 1,000 licenced drivers within the age range of <16-24, there are 2.8, 1.9 and 1.1 drivers who had committed a second alcohol-related Criminal Code offence. In 1986, the relative involvement rate for <16-24 year old drivers was one and half times the rate for the 25-44 year old licenced driver and four times the rate for 45-64 year old drivers. In 1990, the rate for <16-24 was only slightly higher than for the 25-44 age group (1.9 as compared to 1.2); but four times the rate for the 45-64 age group. In 1998, the relative involvement rate for drivers between the age of <16-24 was one and a half times higher than for the 25-44 age group and almost four times higher than the 45-64 age group.
- Drivers over the age of 65 have maintained a relative involvement rate of 0.1 per 1,000 drivers over the three years under review.

Driver Involvement in Third and Subsequent Occurrence Alcohol-Related Criminal Code Offences
by Selected Age Group
1986, 1990 and 1998

Age Group	1986			1990			1998		
	Alcohol [1] Convictions	Licenced Drivers	Rate /1000	Alcohol Convictions	Licenced Drivers	Rate /1000	Alcohol Convictions	Licenced Drivers	Rate /1000
<16-24	134	123707	1.1	67	108060	0.6	13	100754	0.1
25-44	412	294105	1.4	233	308301	0.8	76	285253	0.3
45-64	64	157412	0.4	43	166000	0.3	12	207012	0.1
65>	2	70251	-.-	1	82203	-.-	4	99922	-.-
Total	612	645475	0.9	344	664564	0.5	105	692941	0.2

1. For comparative purposes, the report assumes each alcohol-related Criminal Code conviction is for a single licenced driver, although a single driver may obtain more than one alcohol-related Criminal Code conviction in any given year.

Comparison of Third and Subsequent Occurrence Relative Involvement Rate /1000
by Selected Age Groups
1986, 1990 and 1998



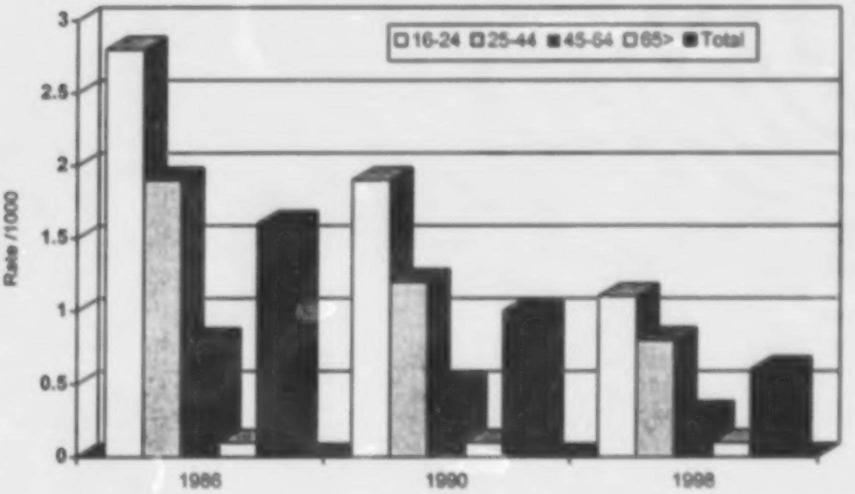
- The total number of drivers convicted of third and subsequent occurrence alcohol-related Criminal Code offences decreased by 82.8% from 612 in 1986 to 105 in 1998.
- Drivers in the age group 25-44 recorded the highest involvement rate. However, their involvement rates declined by 81.6% from 412 in 1986 to 76 in 1998. The <16-24 age group, which had the second highest involvement rate decreased by 90.3% from 134 to 13.
- The third highest age group 45-64 decreased by 81.3% from 64 in 1986 to 12 in 1998.

Driver Involvement in Second Occurrence Alcohol-Related Criminal Code Offences
by Age Group
1986, 1990 and 1998

Age Group	1986			1990			1998		
	Alcohol [1] Convictions	Licenced Drivers	Rate /1000	Alcohol Convictions	Licenced Drivers	Rate /1000	Alcohol Convictions	Licenced Drivers	Rate /1000
<16-24	350	123707	2.8	204	108060	1.9	107	100754	1.1
25-44	551	294105	1.9	373	308301	1.2	217	285253	0.8
45-64	121	157412	0.8	88	166000	0.5	66	207012	0.3
65>	4	70251	0.1	6	82203	0.1	7	99922	0.1
Total	1026	645475	1.6	671	664564	1.0	397	692941	0.6

1. For comparative purposes, the report assumes each alcohol-related Criminal Code conviction is for a single licenced driver although a single driver may obtain more than one alcohol-related Criminal Code conviction in any given year.

Comparison of Second Occurrence Relative Involvement Rate /1000
by Age Groups
1986, 1990 and 1998



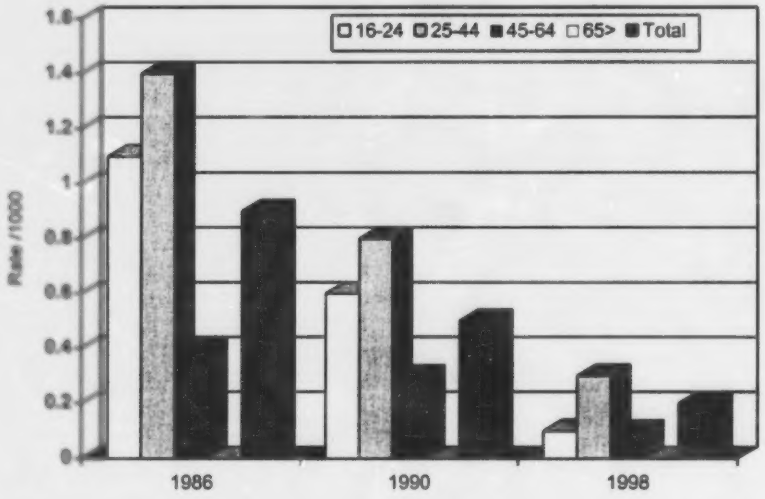
- Overall, the total number of drivers convicted of second offence alcohol-related Criminal Code offences decreased by 61.3% from 1,026 in 1986 to 397 in 1998.
- The rate for drivers in the highest involved age group <16-24 dropped 69.4% from 350 in 1986 to 107 in 1998. Similarly, the second ranked age group 25-44 recorded a 60.6% decrease from 551 in 1986 to 217 in 1998.
- For every 1,000 licenced drivers within the age range of <16-24, there are 2.8, 1.9 and 1.1 drivers who had committed a second alcohol-related Criminal Code offence. In 1986, the relative involvement rate for <16-24 year old drivers was one and half times the rate for the 25-44 year old licenced driver and four times the rate for 45-64 year old drivers. In 1990, the rate for <16-24 was only slightly higher than for the 25-44 age group (1.9 as compared to 1.2); but four times the rate for the 45-64 age group. In 1998, the relative involvement rate for drivers between the age of <16-24 was one and a half times higher than for the 25-44 age group and almost four times higher than the 45-64 age group.
- Drivers over the age of 65 have maintained a relative involvement rate of 0.1 per 1,000 drivers over the three years under review.

Driver Involvement in Third and Subsequent Occurrence Alcohol-Related Criminal Code Offences
by Selected Age Group
1986, 1990 and 1998

Age Group	1986			1990			1998		
	Alcohol[1] Convictions	Licenced Drivers	Rate /1000	Alcohol Convictions	Licenced Drivers	Rate /1000	Alcohol Convictions	Licenced Drivers	Rate /1000
<16-24	134	123707	1.1	67	108060	0.6	13	100754	0.1
25-44	412	294105	1.4	233	308301	0.8	76	285253	0.3
45-64	64	157412	0.4	43	166000	0.3	12	207012	0.1
65>	2	70251	-.-	1	82203	-.-	4	99922	-.-
Total	612	645475	0.9	344	664564	0.5	105	692941	0.2

1. For comparative purposes, the report assumes each alcohol-related Criminal Code conviction is for a single licenced driver, although a single driver may obtain more than one alcohol-related Criminal Code conviction in any given year.

Comparison of Third and Subsequent Occurrence Relative Involvement Rate /1000
by Selected Age Groups
1986, 1990 and 1998



- The total number of drivers convicted of third and subsequent occurrence alcohol-related Criminal Code offences decreased by 82.8% from 612 in 1986 to 105 in 1998.
- Drivers in the age group 25-44 recorded the highest involvement rate. However, their involvement rates declined by 81.6% from 412 in 1986 to 76 in 1998. The <16-24 age group, which had the second highest involvement rate decreased by 90.3% from 134 to 13.
- The third highest age group 45-64 decreased by 81.3% from 64 in 1986 to 12 in 1998.

Total Alcohol-Related Criminal Code Offences
by Age Group and Conviction Type
1998*

Age Group	Alcohol Content Over .08		Impaired Driving				Refuse Sample		Total
	253-B		253-A		255-2	255-3	254-5		
	No Accident	With Accident	No Accident	With Accident	Injury	Death	No Accident	With Accident	
<16	5	0	1	0	1	0	0	0	7
16-17	82	0	12	0	6	1	8	0	109
18-20	284	10	32	4	3	0	14	2	349
21-24	360	6	56	2	4	0	20	0	448
25-29	373	14	59	6	10	0	30	3	495
30-34	329	10	67	3	1	0	48	1	459
35-39	325	13	54	2	1	0	56	4	455
40-44	228	8	33	3	3	0	29	2	306
45-49	156	4	28	3	4	0	30	2	227
50-54	117	4	15	2	3	0	20	2	163
55-59	61	1	8	1	0	0	10	1	82
60-64	41	2	3	1	0	0	2	0	49
65-69	29	1	4	0	0	0	5	0	39
70-74	17	1	5	0	0	0	2	0	25
75>	6	0	0	0	0	0	0	0	6
Total	2413	74	377	27	36	1	274	17	3219

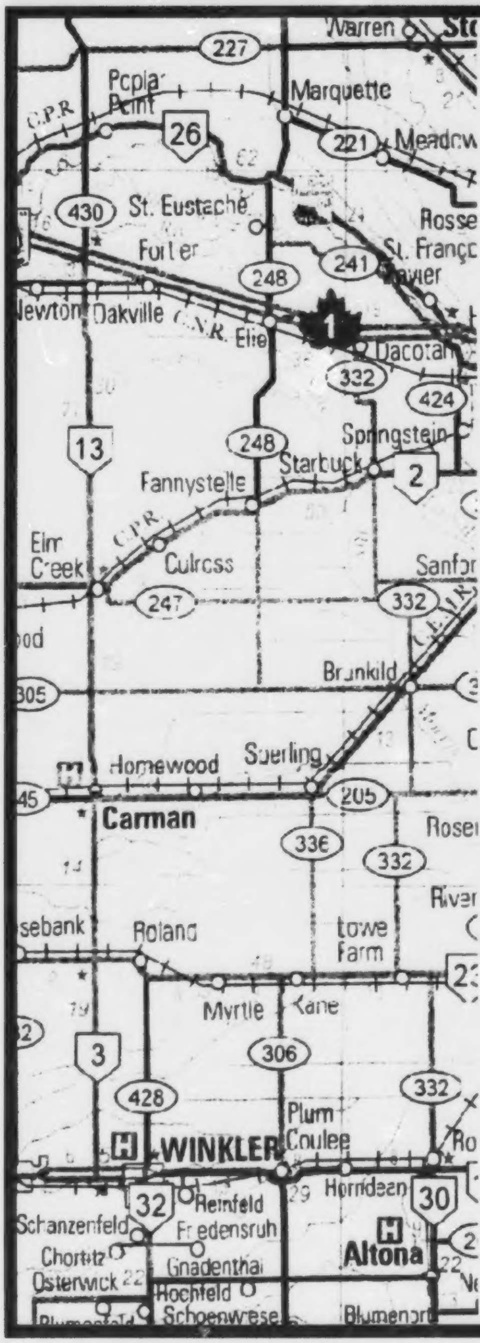
** Driver and Vehicle Licencing's alcohol statistics collection is structured to accommodate a "two year" updating period due to a potential backlog in the court process. Consequently, there is a one-year delay in reporting alcohol statistics.*

Total Alcohol-Related Criminal Code Offences
by Age Group and Conviction Type
1998*

Age Group	Alcohol Content Over .08		Impaired Driving				Refuse Sample		Total
	253-B		253-A		255-2	255-3	254-5		
	No Accident	With Accident	No Accident	With Accident	Injury	Death	No Accident	With Accident	
<16	5	0	1	0	1	0	0	0	7
16-17	82	0	12	0	6	1	8	0	109
18-20	284	10	32	4	3	0	14	2	349
21-24	360	6	56	2	4	0	20	0	448
25-29	373	14	59	6	10	0	30	3	495
30-34	329	10	67	3	1	0	48	1	459
35-39	325	13	54	2	1	0	56	4	455
40-44	228	8	33	3	3	0	29	2	306
45-49	156	4	28	3	4	0	30	2	227
50-54	117	4	15	2	3	0	20	2	163
55-59	61	1	8	1	0	0	10	1	82
60-64	41	2	3	1	0	0	2	0	49
65-69	29	1	4	0	0	0	5	0	39
70-74	17	1	5	0	0	0	2	0	25
75>	6	0	0	0	0	0	0	0	6
Total	2413	74	377	27	36	1	274	17	3219

** Driver and Vehicle Licencing's alcohol statistics collection is structured to accommodate a "two year" updating period due to a potential backlog in the court process. Consequently, there is a one-year delay in reporting alcohol statistics.*

PART TWO



1999

Traffic Collision Statistics

MANITOBA

Provincial Trunk Highways
and
Provincial Roads

Traffic Engineering Branch

Preface

The following report provides an analysis of reported traffic collisions on record that have been identified as occurring on the provincial highway system. The purpose of producing these statistics is to provide an overview of the types of collisions that occur on the highway system; to attempt to identify collision prone locations; and to provide a basis of comparison for these collision prone locations. It is a continuation of the "1998 Traffic Collision Statistics on Manitoba Provincial Trunk Highways and Provincial Roads" compiled by the Traffic Engineering Branch.

In Section 1, the traffic collision statistics are summarized according to the categories urban, suburban and rural and by the total number of collisions occurring in each. These categories are defined according to the legal, posted speed limit on the provincial highway system: the urban category - 50 or 60 km/h; suburban category - 70 or 80 km/h; and rural category - 90 or 100 km/h. Section 2, construction-related collisions, provides an overview of traffic collisions that were reported to occur within construction or maintenance zones. The last section, Comparison of Intersection Collision Data, presents an overview of traffic collisions by intersection. The intersection data is presented according to eleven intersection types based on their functional classification, and whether they are in a rural, suburban or urban environment.

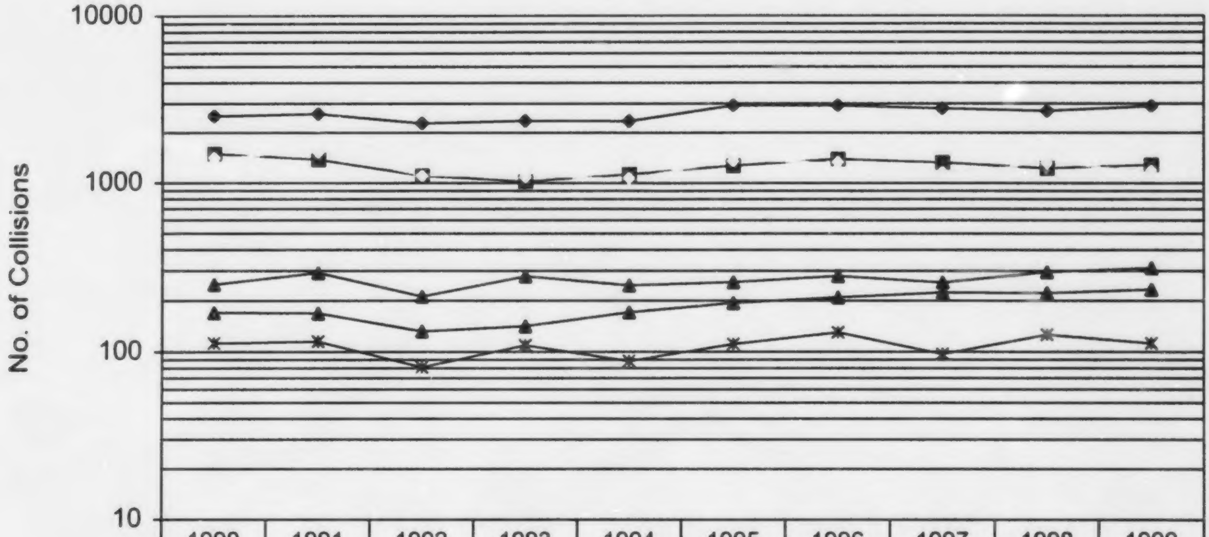
In 1999 there were 5910 reported collisions on record that involved 8138 vehicles. Due to different speed limits on intersecting highways this report reflects 114 collisions more than actually occurred. Slightly over 69% of the total collisions occurred on the rural highway system.

Users of this report are invited to comment on the format of the data provided and to make suggestions as to any other data that would be useful. The Traffic Engineering Branch is located at 1510 - 215 Garry Street, Winnipeg, telephone: (204) 945-3781 fax: (204) 948-2554.

Section 1

Provincial Highway Collisions

Collision Trends by Posted Speed Limit
1990 - 1999



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
◆ 100	2509	2595	2276	2361	2349	2918	2916	2806	2697	2898
■ 90	1496	1382	1106	1022	1126	1271	1392	1327	1225	1284
▲ 80	170	169	132	142	171	194	209	224	222	233
▲ 70	249	292	212	279	246	257	280	256	296	313
✱ 60	112	115	81	109	88	111	130	97	126	112
50	1414	1525	1104	1087	1070	1353	1330	1156	1311	1185

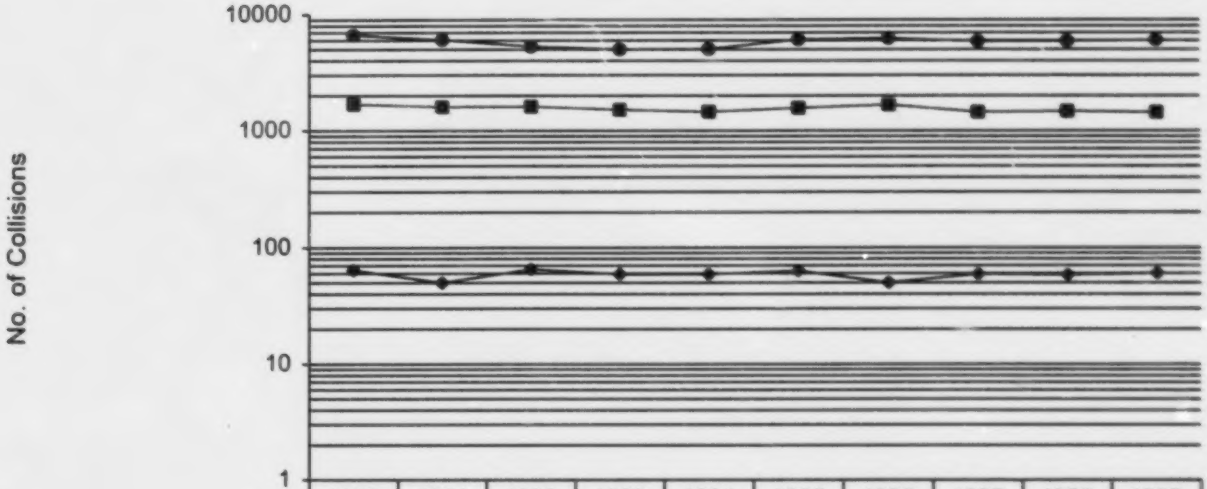
In the late summer of 1999 the legal speed limit on approximately 2200 kilometres of highway was raised from 90 km/h to 100 km/h. This increases the total length of highways in the province of Manitoba at 100 km/h to approximately 9500 kilometres.

By Severity and Category
1999

Severity	Category			Total
	Rural	Suburban	Urban	
Fatal	49	4	7	60
Injury	882	180	318	1380
Property Damage	3251	362	972	4585
Total	4182	546	1297	6025*

* The total of 6025 represents 5910 reported collisions on record plus 114 collisions that occurred at the intersection of two highways that do not have the same legal speed limit (and hence fall into more than one Category).

Collision History
by Severity



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
—●— Property Damage	4937	4476	3707	3488	3598	4539	4582	4421	4407	4585
—■— Injury	1628	1552	1550	1453	1393	1502	1625	1386	1412	1380
—◆— Fatal	64	50	65	59	59	63	50	59	58	60
Total	6629	6078	5322	5000	5050	6104	6257	5866	5877	6025

By Number of Vehicles Involved and Category

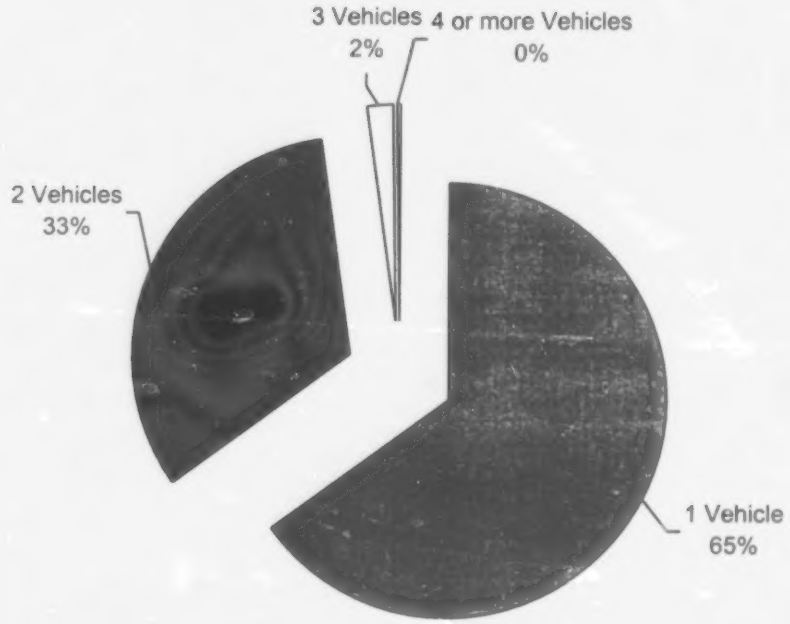
1999

No. of Vehicles	No. of Collisions	Category			Total
		Rural	Suburban	Urban	
1	3834	3399	215	220	3834
2	1948	1406	539	1951	3896
3	111	100	52	181	333
4	15	30	14	16	60
5	1	5	0	0	5
10	1	10	0	0	10
Total	5910	4950	820	2368	8138*

* The total of 8138 represents the total number of vehicles involved in collisions on record.

# of Collisions by Number of Vehicles Involved

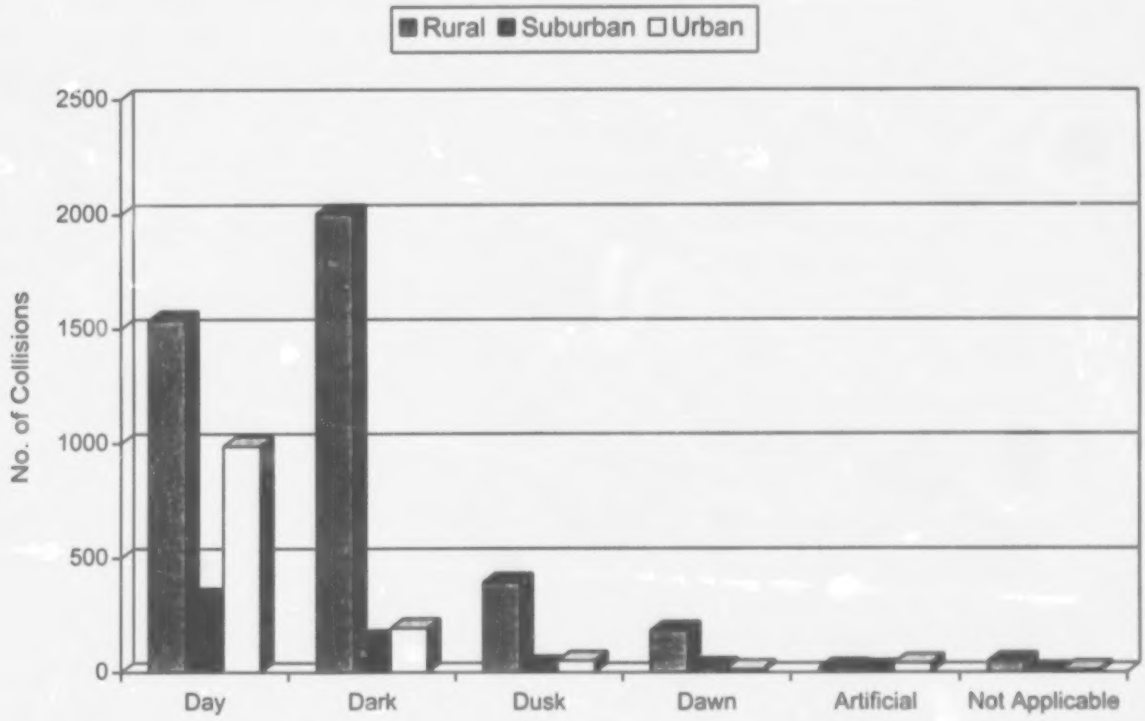
1999



By Light Condition and Category
1999

Condition	Category			Total
	Rural	Suburban	Urban	
Day	1538	328	988	2854
Dawn	182	24	13	219
Dusk	393	31	51	475
Dark	2003	144	194	2341
Artificial	19	14	40	73
Not Applicable	47	5	11	63
Total	4182	546	1297	6025

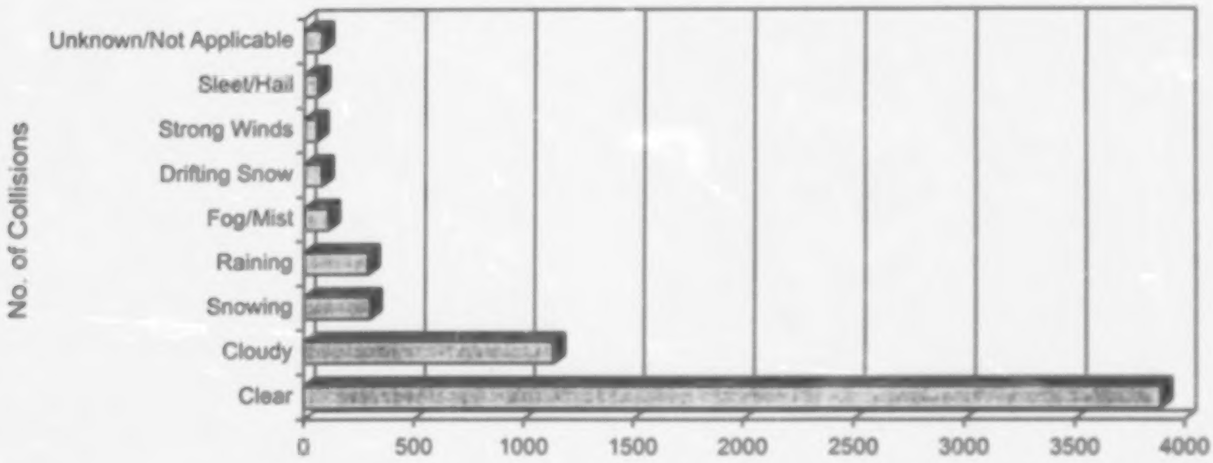
Collisions by Light Conditions
1999



By Weather Condition and Category
1999

Condition	Category			Total
	Rural	Suburban	Urban	
Clear	2712	350	830	3892
Cloudy	751	97	292	1140
Raining	180	33	78	291
Snowing	206	33	62	301
Fog or Mist	101	5	4	110
Smoke or Dust	8	0	1	9
Freezing Rain/Sleet/Hail	48	8	7	63
Drifting Snow	71	7	3	81
Strong Winds	48	4	5	57
Unknown	2	0	1	3
Not Applicable	55	9	14	78
Total	4182	546	1297	6025

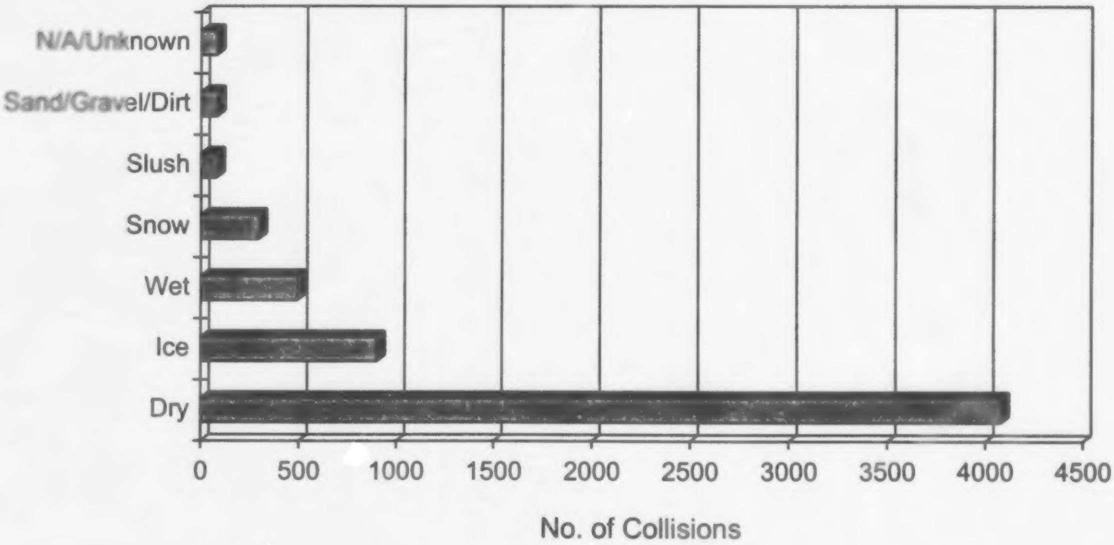
Collisions by Weather Condition
1999



Road Surface Condition and Category
1999

Condition	Category			Total
	Rural	Suburban	Urban	
Dry	2896	358	826	4080
Wet	299	47	145	491
Mud	17	0	3	20
Snow	181	30	83	294
Ice	614	88	197	899
Slush	53	9	17	79
Loose Sand/Gravel/Dirt	66	5	10	81
Fresh Oil	1	0	0	1
Not Applicable & Unknown	55	9	16	80
Total	4182	546	1297	6025

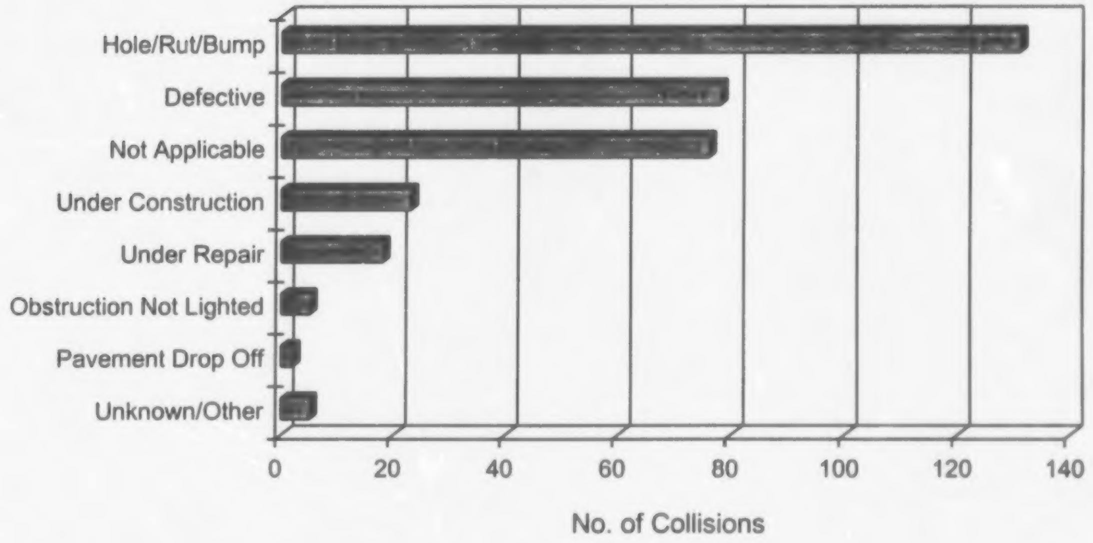
Collisions by Road Surface Condition
1999



By Road Condition and Category
1999

Condition	Category			Total
	Rural	Suburban	Urban	
Good	3906	524	1257	5687
Defective	64	6	8	78
Under Repair	11	3	4	18
Under Construction	11	3	9	23
Obstruction Not Lighted	5	0	0	5
Hole/Rut/Bump	121	4	6	131
Pavement Drop Off	2	0	0	2
Unknown/Other	3	1	1	5
Not Applicable	59	5	12	76
Total	4182	546	1297	6025

Collisions by Road Condition
1999

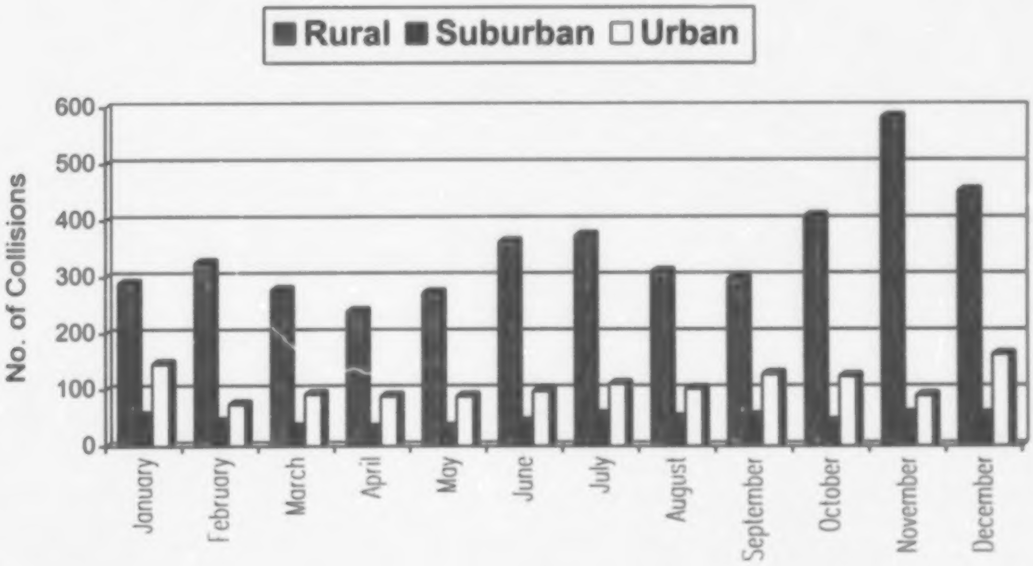


Note: The "Good" condition has been excluded from the graph to present the remaining conditions in a clearer manner.

By Month of Occurrence and Category
1999

Month	Category			Total
	Rural	Suburban	Urban	
January	289	54	146	489
February	325	43	74	442
March	277	33	92	402
April	239	31	88	358
May	272	33	88	393
June	362	42	97	501
July	373	55	110	538
August	309	49	101	459
September	296	53	127	476
October	407	42	123	572
November	582	56	89	727
December	451	55	162	668
Total	4182	546	1297	6025

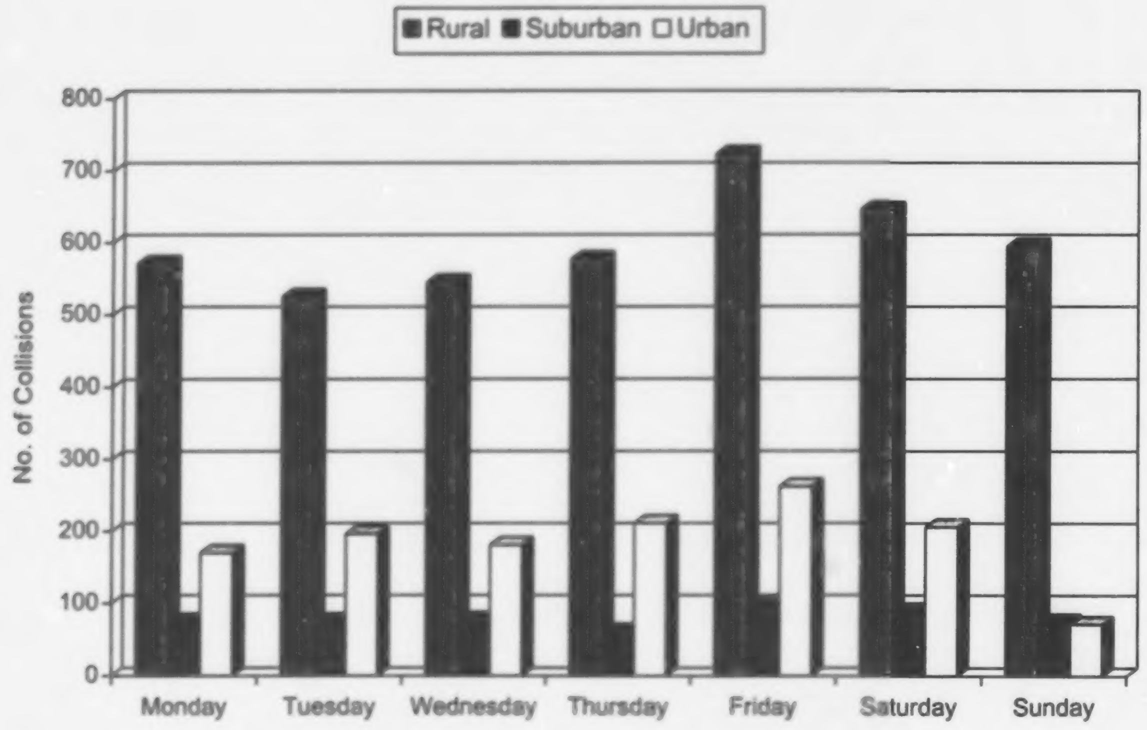
Collisions by Month of Occurrence and Category
1999



By Day of Week and Category
1999

Day of Week	Category			Total
	Rural	Suburban	Urban	
Monday	571	75	170	816
Tuesday	525	75	196	796
Wednesday	545	77	181	803
Thursday	577	61	211	849
Friday	723	95	262	1080
Saturday	646	89	206	941
Sunday	595	74	71	740
Total	4182	546	1297	6025

Collisions by Day of the Week and Category
1999



By Hour of Day and Category
1999

Hour	Category			Total
	Rural	Suburban	Urban	
00:01 - 01:00	91	9	17	117
01:01 - 02:00	91	9	9	109
02:01 - 03:00	67	11	15	93
03:01 - 04:00	62	6	7	75
04:01 - 05:00	47	5	6	58
05:01 - 06:00	85	6	3	94
06:01 - 07:00	189	25	7	221
07:01 - 08:00	232	32	22	286
08:01 - 09:00	141	22	40	203
09:01 - 10:00	129	22	46	197
10:01 - 11:00	138	20	62	220
11:01 - 12:00	108	31	86	225
12:01 - 13:00	110	24	98	232
13:01 - 14:00	110	22	107	239
14:01 - 15:00	120	22	103	245
15:01 - 16:00	136	36	105	277
16:01 - 17:00	178	47	147	372
17:01 - 18:00	264	44	111	419
18:01 - 19:00	326	39	60	425
19:01 - 20:00	306	24	58	388
20:01 - 21:00	253	27	42	322
21:01 - 22:00	300	13	45	358
22:01 - 23:00	357	22	38	417
23:01 - 24:00	222	21	18	261
Not Stated	120	7	45	172
Total	4182	546	1297	6025

By Vehicle Type and Category
1999

Vehicle Type	Category			Total
	Rural	Suburban	Urban	
Automobile	2476	484	1387	4347
Mini Van/Multi Purpose Van	522	66	157	745
Van under 4500 kg	180	22	79	281
Pick Up under 4500 kg	1286	170	565	2021
Truck over 4500 kg (Unit Chassis)	123	19	34	176
Power Unit for Semi-Trailer	179	27	32	238
Truck/Camper	6	2	1	9
Motorhome	13	0	1	14
Truck (Other)	90	19	49	158
School Bus	2	0	3	5
Transit Bus (Urban)	0	0	3	3
Inter-City Bus	1	0	0	1
Bus (Other)	2	1	1	4
Motorcycle/Scooter	19	4	10	33
Bicycle	7	0	14	21
Ambulance	3	0	4	7
Fire	1	0	0	1
Police	6	1	3	10
Mobility Vehicle	0	1	0	1
Farm Equipment	16	1	1	18
Construction Equipment	7	1	3	11
Snowmobile	2	0	0	2
Pedestrian	9	2	21	32
Total	4950	820	2368	8138

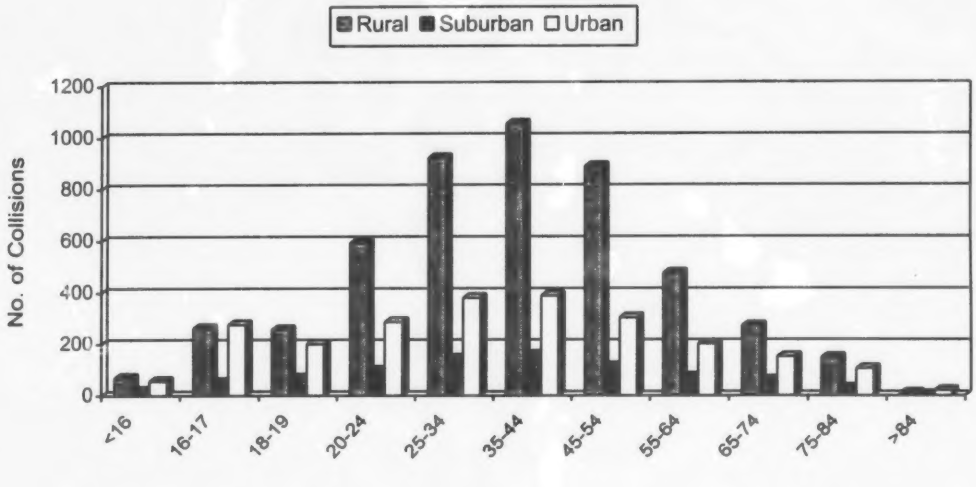
By Collision Configuration and Category
1999

Configuration	Category			Total
	Rural	Suburban	Urban	
Rear End	205	126	411	742
Head On	33	5	5	43
Side Swipe (Opposite Direction)	47	12	23	82
Side Swipe (Same Direction)	91	28	78	197
Overtaking	66	15	33	114
Right Turn (Rear End)	5	4	12	21
Right Turn (Head On)	8	1	10	19
Left Turn (Head On)	20	13	24	57
Left Turn (Rear End)	17	9	28	54
Left Turn (Classic)	30	27	100	157
Intersection (90 Degrees)	164	67	257	488
Off Road – Right	504	33	35	572
Off Road - Left	443	33	22	498
Fixed Object	103	30	61	194
Parking	4	0	25	29
Pedestrian	9	3	21	33
Other	2433	140	152	2725
Total	4182	546	1297	6025

Driver/Pedestrian Involvement
By Age Group and Category
1999

Age Group	Category			Total
	Rural	Suburban	Urban	
<16	69	19	56	144
16-17	262	52	276	590
18-19	256	68	200	524
20-24	592	98	286	976
25-34	922	144	381	1447
35-44	1055	159	389	1603
45-54	889	114	303	1306
55-64	476	73	201	750
65-74	271	60	151	482
75-84	148	29	105	282
>84	10	4	20	34
Total	4950	820	2368	8138

Driver/Pedestrian Involvement in Provincial Highway Collisions
By Age Group and Category
1999



Percentage of Active Drivers Involved in Collisions by Age Group and Category*

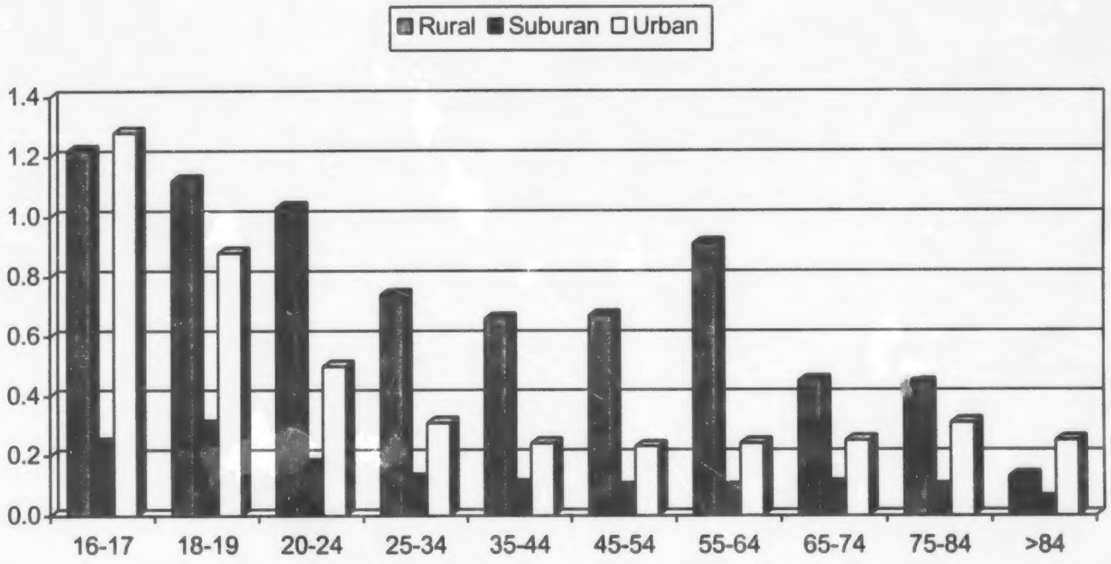
1999

Age Group	Total Licenced Drivers	Category			Total (%)
		Rural (%)	Suburban (%)	Urban (%)	
16-17	21554	1.22	0.24	1.28	2.74
18-19	22783	1.12	0.30	0.88	2.30
20-24	57514	1.03	0.17	0.50	1.70
25-34	124831	0.74	0.12	0.31	1.16
35-44	159135	0.66	0.10	0.24	1.01
45-54	132675	0.67	0.09	0.23	0.98
55-64	82178	0.91	0.09	0.24	0.91
65-74	60296	0.45	0.10	0.25	0.80
75-84	34019	0.44	0.09	0.31	0.83
>84	7866	0.13	0.05	0.25	0.43

* The data contained in this table is calculated by dividing the number of reported collisions within each age group into the total number of active drivers (see Part 1, Section 2, Licenced Drivers, Page 13). It is assumed that each category is exposed to all drivers licensed within the province.

Percentage of Provincial Highway Collisions By Age and Category

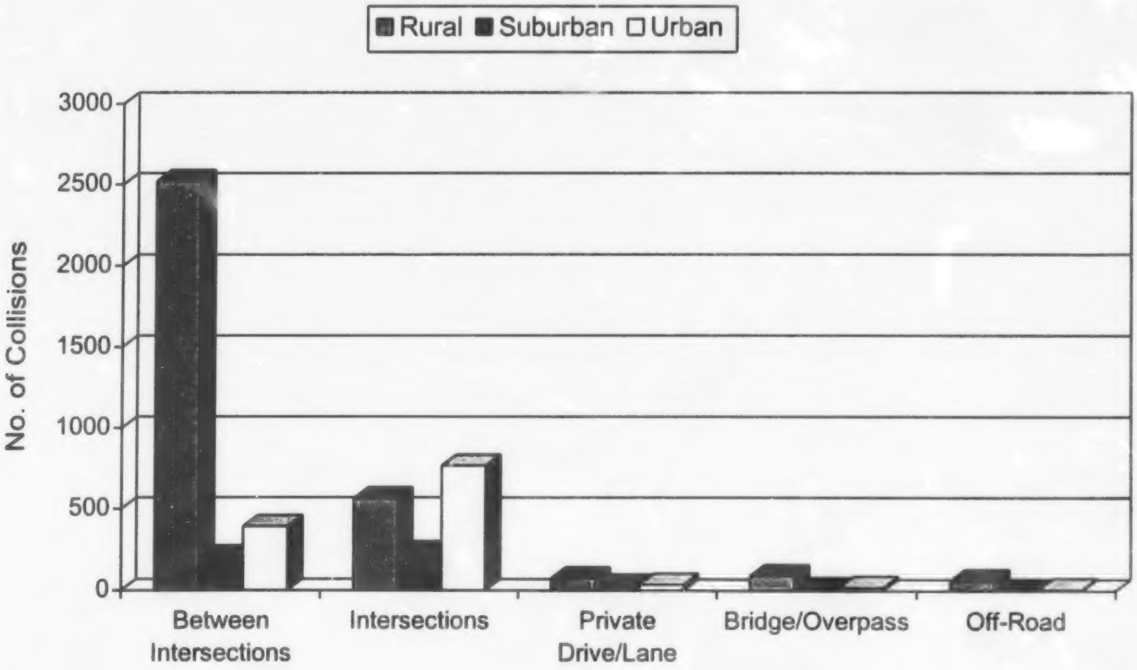
1999



By Collision Site Type and Category
1999

Site Type	Category			Total
	Rural	Suburban	Urban	
Intersection	563	232	766	1561
Between Intersections	2520	205	392	3117
Intersection of Private Drive/Lane	73	30	36	139
Railroad Level Crossing	15	5	9	29
Bridge/Overpass	90	10	19	119
Tunnel/Underpass	4	0	1	5
Off-Road	60	1	7	68
Passing/Climbing Lane	25	2	1	28
Not Applicable	824	61	63	948
Unknown/Other	8	0	3	11
Total	4182	546	1297	6025

Collisions by Top Five Site Types and Category
1999



M121

IMPORTANT NOTE CONCERNING THE FOLLOWING PAGES

THE PAGES WHICH FOLLOW HAVE BEEN FILMED TWICE IN ORDER TO OBTAIN THE BEST REPRODUCTIVE QUALITY

USERS SHOULD CONSULT ALL THE PAGES REPRODUCED ON THE FICHE IN ORDER TO OBTAIN A COMPLETE READING OF THE TEXT.

REMARQUE IMPORTANTE CONCERNANT LES PAGES QUI SUIVENT

LES PAGES SUIVANTES ONT ÉTÉ REPRODUITES EN DOUBLE AFIN D'AMÉLIORER LA QUALITÉ DE REPRODUCTION

LES UTILISATEURS DOIVENT CONSULTER TOUTES LES PAGES REPRODUITES SUR LA FICHE AFIN D'OBTENIR LA LECTURE DU TEXTE INTÉGRAL

micromedia
a division of IHS Canada

20 Victoria Street
Toronto, Ontario M5C 2N8
Tel.: (416) 362-5211
Toll Free: 1-800-387-2689
Fax: (416) 362-6161
Email: info@micromedia.on.ca

Vehicle Involvement
by Sequence of Events, Collision With and Category
1999

Part 1

Event or Collision With	Category			Total
	Rural	Suburban	Urban	
Ditch/Embankment/Earth Slope	589	44	31	664
Approach	7	1	1	9
Traffic Barricade	5	0	1	6
Sign Post	25	7	6	38
Traffic Signal Standard	2	3	3	8
Street Light Standard	2	2	6	10
Telephone/Power Pole	7	4	13	24
Guard Rail	24	5	3	32
Bridge Structure/Abutment	19	1	5	25
Tree/Bush	15	1	9	25
Building/Wall	2	0	4	6
Curbing	13	5	17	35
Fence	1	1	2	4
Culvert/Drainage Structure	6	0	1	7
Snow Bank/Drift	6	0	2	8
Rock Face	3	4	0	7
Fire Hydrants/Utility Box	0	0	2	2
Median Barrier/Gore	18	4	1	23
Gate/Movable Barrier	1	1	0	2
Impact Attenuator	40	1	1	42
Subtotal Part 1	785	84	108	977

Vehicle Involvement
by Sequence of Events, Collision With and Category
1999

Part 1

Event or Collision With	Category			Total
	Rural	Suburban	Urban	
Ditch/Embankment/Earth Slope	589	44	31	664
Approach	7	1	1	9
Traffic Barricade	5	0	1	6
Sign Post	25	7	6	38
Traffic Signal Standard	2	3	3	8
Street Light Standard	2	2	6	10
Telephone/Power Pole	7	4	13	24
Guard Rail	24	5	3	32
Bridge Structure/Abutment	19	1	5	25
Tree/Bush	15	1	9	25
Building/Wall	2	0	4	6
Curbing	13	5	17	35
Fence	1	1	2	4
Culvert/Drainage Structure	6	0	1	7
Snow Bank/Drift	6	0	2	8
Rock Face	3	4	0	7
Fire Hydrants/Utility Box	0	0	2	2
Median Barrier/Gore	18	4	1	23
Gate/Movable Barrier	1	1	0	2
Impact Attenuator	40	1	1	42
Subtotal Part 1	785	84	108	977

Vehicle Involvement
by Sequence of Events, Collision With and Category
1999

Part 2

Event or Collision With	Category			Total
	Rural	Suburban	Urban	
Vehicle	1491	605	2147	4243
Railroad Train	4	1	2	7
Bicyclist	7	0	13	20
Motorcycle	4	1	6	11
Animal	2134	91	34	2259
Pedestrian	9	2	18	29
Farm Machinery	14	0	1	15
Construction Machinery*	6	2	3	11
Snowmobile	2	0	0	2
Ran Off Road	261	20	11	292
Overturned	68	4	5	77
Fire/Explosion	67	5	5	77
Skidding/Sliding	34	2	3	39
Jack-Knifing/Trailer Swing	8	1	0	9
Submersion/Immersion	1	0	0	1
Load Spill	32	1	3	36
Not Applicable	23	1	9	33
Subtotal Part 2	4165	736	2260	7161
Subtotal Part 1	785	84	108	977
Total	4950	820	2368	8138

*Based on a review of the TARS this sequence of events includes maintenance equipment.

Contributing Factors*
By Driver Action and Category
1999

Driver Action	Category			Total
	Rural	Suburban	Urban	
Driving Properly	1785	341	1044	3170
Following Too Closely	36	22	139	197
Turning Improperly	39	15	74	128
Exceeding Speed Limit	18	6	5	29
Driving Too Fast For Conditions	134	23	69	226
Unsafe Operating Speed (Too Fast or Too Slow)	23	4	9	36
Passing Improperly	27	5	5	37
Changing Lanes Improperly	23	8	38	69
Failed To Yield Right Of Way	77	33	137	247
Disobeyed Traffic Control Device/Officer	30	12	71	113
Driving Wrong Way on Roadway	2	1	1	4
Passing A Vehicle At Pedestrian Crosswalk	0	1	0	1
Backing Unsafely	6	4	34	44
Parking Improperly	3	2	6	11
Careless Driving	45	13	48	106
Lost Control/Drive Off Roadway	208	25	19	252
Driverless Vehicle Ran Out Of Control	1	0	3	4
Leave Stop Sign Before Safe To Do So	31	8	55	94
Failed To Signal	5	2	1	8
Taking Avoiding Action	57	11	23	91
Driver Inexperience	60	16	35	111
Pedestrian Error/Confusion	3	2	7	12
Total	2613	554	1823	4990

* Note: There is a maximum of three contributing factors recorded on the Traffic Accident Report for each vehicle involved in a collision. The data presented in this table represents the total number of at-fault 'driver action' factors reported. Due to the number of blank/not applicable entries reported in this data the totals do not correlate to the number of vehicles involved.

Vehicle Involvement
by Sequence of Events, Collision With and Category
1999

Part 2

Event or Collision With	Category			Total
	Rural	Suburban	Urban	
Vehicle	1491	605	2147	4243
Railroad Train	4	1	2	7
Bicyclist	7	0	13	20
Motorcycle	4	1	6	11
Animal	2134	91	34	2259
Pedestrian	9	2	18	29
Farm Machinery	14	0	1	15
Construction Machinery*	6	2	3	11
Snowmobile	2	0	0	2
Ran Off Road	261	20	11	292
Overturned	68	4	5	77
Fire/Explosion	67	5	5	77
Skidding/Sliding	34	2	3	39
Jack-Knifing/Trailer Swing	8	1	0	9
Submersion/Immersion	1	0	0	1
Load Spill	32	1	3	36
Not Applicable	23	1	9	33
Subtotal Part 2	4165	736	2260	7161
Subtotal Part 1	785	84	108	977
Total	4950	820	2368	8138

*Based on a review of the TARS this sequence of events includes maintenance equipment.

Contributing Factors*
By Driver Action and Category
1999

Driver Action	Category			Total
	Rural	Suburban	Urban	
Driving Properly	1785	341	1044	3170
Following Too Closely	36	22	139	197
Turning Improperly	39	15	74	128
Exceeding Speed Limit	18	6	5	29
Driving Too Fast For Conditions	134	23	69	226
Unsafe Operating Speed (Too Fast or Too Slow)	23	4	9	36
Passing Improperly	27	5	5	37
Changing Lanes Improperly	23	8	38	69
Failed To Yield Right Of Way	77	33	137	247
Disobeyed Traffic Control Device/Officer	30	12	71	113
Driving Wrong Way on Roadway	2	1	1	4
Passing A Vehicle At Pedestrian Crosswalk	0	1	0	1
Backing Unsafely	6	4	34	44
Parking Improperly	3	2	6	11
Careless Driving	45	13	48	106
Lost Control/Drive Off Roadway	208	25	19	252
Driverless Vehicle Ran Out Of Control	1	0	3	4
Leave Stop Sign Before Safe To Do So	31	8	55	94
Failed To Signal	5	2	1	8
Taking Avoiding Action	57	11	23	91
Driver Inexperience	60	16	35	111
Pedestrian Error/Confusion	3	2	7	12
Total	2613	554	1823	4990

* Note: There is a maximum of three contributing factors recorded on the Traffic Accident Report for each vehicle involved in a collision. The data presented in this table represents the total number of at-fault 'driver action' factors reported. Due to the number of blank/not applicable entries reported in this data the totals do not correlate to the number of vehicles involved.

Contributing Factors*
By Human Condition and Category
1999

Human Condition	Category			Total
	Rural	Suburban	Urban	
Apparently Normal	2293	447	1403	4143
Loss Of Consciousness/Blackout Prior To Accident	12	1	3	16
Extreme Fatigue/Fell Asleep	56	7	8	71
Defective Eyesight	3	1	4	8
Defective Hearing	0	0	1	1
Medical Disability	1	1	3	5
Physical Disability	1	1	0	2
Mental Disability	1	0	0	1
Mental Confusion/Inability To Remember	6	1	2	9
Sudden Illness	1	0	1	2
Ability Impaired by Alcohol	61	11	16	88
Ability Impaired by Drugs	3	0	0	3
Had Been Drinking/ Suspected Alcohol Use	34	11	4	49
Distraction/Inattention	89	38	194	321
Exceeded Hours of Service	0	1	0	1
Total	2561	520	1639	4720

* Note: There is a maximum of three contributing factors recorded on the Traffic Accident Report for each vehicle involved in a collision. The data presented in this table represents the total number of at-fault 'human condition' factors reported. Due to the number of blank/not applicable entries reported in this data the totals do not correlate to the number of vehicles involved.

Contributing Factors*
By Vehicle Condition and Category
1999

Vehicle Condition	Category			Total
	Rural	Suburban	Urban	
No Apparent Defect	1481	419	1375	3275
Defective Brakes	9	4	6	19
Defective Steering	1	2	1	4
Defective Headlights	1	0	0	1
Defective Brakelights	1	0	1	2
Defective Lighting (Unspecified)	2	1	1	4
Defective Engine Controls/Drive Train	10	0	3	13
Defective Suspension/Wheels	5	0	2	7
Defective Tires	22	0	5	27
Defective Tow Hitch/Yoke	3	0	2	5
Defective Exhaust System	1	0	0	1
Hood/Tailgate/Door/Covering Opened	5	0	0	5
Defective Glazing/Obscured Windows	1	0	0	1
Fire	50	5	5	60
Overloaded/Oversized	0	0	2	2
Load Shifted/Spilled	10	0	1	11
Jack-knifing/Trailer Swing	7	1	1	9
Hydroplaning of Tires	3	1	3	7
Total	1612	433	1408	3453

* Note: There is a maximum of three contributing factors recorded on the Traffic Accident Report for each vehicle involved in a collision. The data presented in this table represents the total number of at-fault 'vehicle condition' factors reported. Due to the number of blank/not applicable entries reported in this data the totals do not correlate to the number of vehicles involved.

Contributing Factors*
By Human Condition and Category
1999

Human Condition	Category			Total
	Rural	Suburban	Urban	
Apparently Normal	2293	447	1403	4143
Loss Of Consciousness/Blackout Prior To Accident	12	1	3	16
Extreme Fatigue/Fell Asleep	56	7	8	71
Defective Eyesight	3	1	4	8
Defective Hearing	0	0	1	1
Medical Disability	1	1	3	5
Physical Disability	1	1	0	2
Mental Disability	1	0	0	1
Mental Confusion/Inability To Remember	6	1	2	9
Sudden Illness	1	0	1	2
Ability Impaired by Alcohol	61	11	16	88
Ability Impaired by Drugs	3	0	0	3
Had Been Drinking/ Suspected Alcohol Use	34	11	4	49
Distraction/Inattention	89	38	194	321
Exceeded Hours of Service	0	1	0	1
Total	2561	520	1639	4720

* Note: There is a maximum of three contributing factors recorded on the Traffic Accident Report for each vehicle involved in a collision. The data presented in this table represents the total number of at-fault 'human condition' factors reported. Due to the number of blank/not applicable entries reported in this data the totals do not correlate to the number of vehicles involved.

Contributing Factors*
By Vehicle Condition and Category
1999

Vehicle Condition	Category			Total
	Rural	Suburban	Urban	
No Apparent Defect	1481	419	1375	3275
Defective Brakes	9	4	6	19
Defective Steering	1	2	1	4
Defective Headlights	1	0	0	1
Defective Brakelights	1	0	1	2
Defective Lighting (Unspecified)	2	1	1	4
Defective Engine Controls/Drive Train	10	0	3	13
Defective Suspension/Wheels	5	0	2	7
Defective Tires	22	0	5	27
Defective Tow Hitch/Yoke	3	0	2	5
Defective Exhaust System	1	0	0	1
Hood/Tailgate/Door/Covering Opened	5	0	0	5
Defective Glazing/Obscured Windows	1	0	0	1
Fire	50	5	5	60
Overloaded/Oversized	0	0	2	2
Load Shifted/Spilled	10	0	1	11
Jack-knifing/Trailer Swing	7	1	1	9
Hydroplaning of Tires	3	1	3	7
Total	1612	433	1408	3453

* Note: There is a maximum of three contributing factors recorded on the Traffic Accident Report for each vehicle involved in a collision. The data presented in this table represents the total number of at-fault 'vehicle condition' factors reported. Due to the number of blank/not applicable entries reported in this data the totals do not correlate to the number of vehicles involved.

Contributing Factors*
By Environmental Condition and Category
1999

Environmental Condition	Category			Total
	Rural	Suburban	Urban	
Animal Action - Wild	2082	92	31	2205
Animal Action - Domestic	59	5	2	66
Slippery Road Surface	472	71	144	687
Snow Drift	36	4	4	44
Obstruction/Debris On Roadway	31	4	3	38
View Obstructed/Limited	50	6	26	82
Glare/Reflection	15	0	11	26
Construction Zone	2	2	4	8
Defective Driving Surface	46	3	2	51
Shoulders Defective	7	2	0	9
Lane Markings Inadequate	0	0	1	1
Defective/Inoperative Traffic Control Device	2	0	0	2
Weather	82	13	18	113
Pedestrian Corridor in Use	1	0	4	5
Uninvolved Vehicle	10	2	15	27
Uninvolved Pedestrian	0	0	2	2
Presence Of Prior Accident	6	0	0	6
Total	2901	204	267	3372

* Note: There is a maximum of three contributing factors recorded on the Traffic Accident Report for each vehicle involved in a collision. The data presented in this table represents the total number of at-fault 'environmental condition' factors reported. Due to the number of blank/not applicable entries reported in this data the totals do not correlate to the number of vehicles involved.

Vehicle Involvement
by Traffic Control/Advisory and Category
1999

Control/Advisory	Category			Total
	Rural	Suburban	Urban	
Traffic Signal/Control Device	73	142	602	817
Stop	156	48	198	402
Right Turn On Red	0	0	3	3
Left Turn On Red	0	1	3	4
Yield	38	17	40	95
Officer/Flagman/School Guard	9	1	5	15
Merge	15	4	10	29
4-Way Stop	0	0	4	4
Turn Controls	2	1	0	3
Flashing Signal Light	7	4	5	16
R.R. Gates	2	1	2	5
R.R. Auto Controls	2	0	3	5
R.R. Crossing	5	1	4	10
School Zone	0	1	0	1
Warning Sign	7	1	1	9
Pedestrian Crosswalk	0	1	40	41
Pedestrian Corridor	3	0	12	15
Flashing School Signals	0	2	2	4
Not Applicable	4625	595	1430	6650
Unknown/Other	6	0	4	10
Total	4950	820	2368	8138

Contributing Factors*
By Environmental Condition and Category
1999

Environmental Condition	Category			Total
	Rural	Suburban	Urban	
Animal Action - Wild	2082	92	31	2205
Animal Action - Domestic	59	5	2	66
Slippery Road Surface	472	71	144	687
Snow Drift	36	4	4	44
Obstruction/Debris On Roadway	31	4	3	38
View Obstructed/Limited	50	6	26	82
Glare/Reflection	15	0	11	26
Construction Zone	2	2	4	8
Defective Driving Surface	46	3	2	51
Shoulders Defective	7	2	0	9
Lane Markings Inadequate	0	0	1	1
Defective/Inoperative Traffic Control Device	2	0	0	2
Weather	82	13	18	113
Pedestrian Corridor in Use	1	0	4	5
Uninvolved Vehicle	10	2	15	27
Uninvolved Pedestrian	0	0	2	2
Presence Of Prior Accident	6	0	0	6
Total	2901	204	267	3372

* Note: There is a maximum of three contributing factors recorded on the Traffic Accident Report for each vehicle involved in a collision. The data presented in this table represents the total number of at-fault 'environmental condition' factors reported. Due to the number of blank/not applicable entries reported in this data the totals do not correlate to the number of vehicles involved.

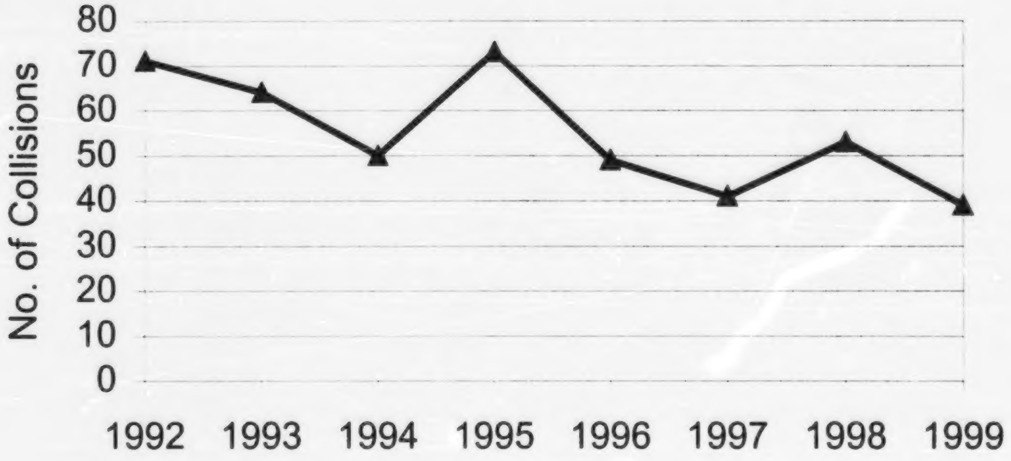
Vehicle Involvement
by Traffic Control/Advisory and Category
1999

Control/Advisory	Category			Total
	Rural	Suburban	Urban	
Traffic Signal/Control Device	73	142	602	817
Stop	156	48	198	402
Right Turn On Red	0	0	3	3
Left Turn On Red	0	1	3	4
Yield	38	17	40	95
Officer/Flagman/School Guard	9	1	5	15
Merge	15	4	10	29
4-Way Stop	0	0	4	4
Turn Controls	2	1	0	3
Flashing Signal Light	7	4	5	16
R.R. Gates	2	1	2	5
R.R. Auto Controls	2	0	3	5
R.R. Crossing	5	1	4	10
School Zone	0	1	0	1
Warning Sign	7	1	1	9
Pedestrian Crosswalk	0	1	40	41
Pedestrian Corridor	3	0	12	15
Flashing School Signals	0	2	2	4
Not Applicable	4625	595	1430	6650
Unknown/Other	6	0	4	10
Total	4950	820	2368	8138

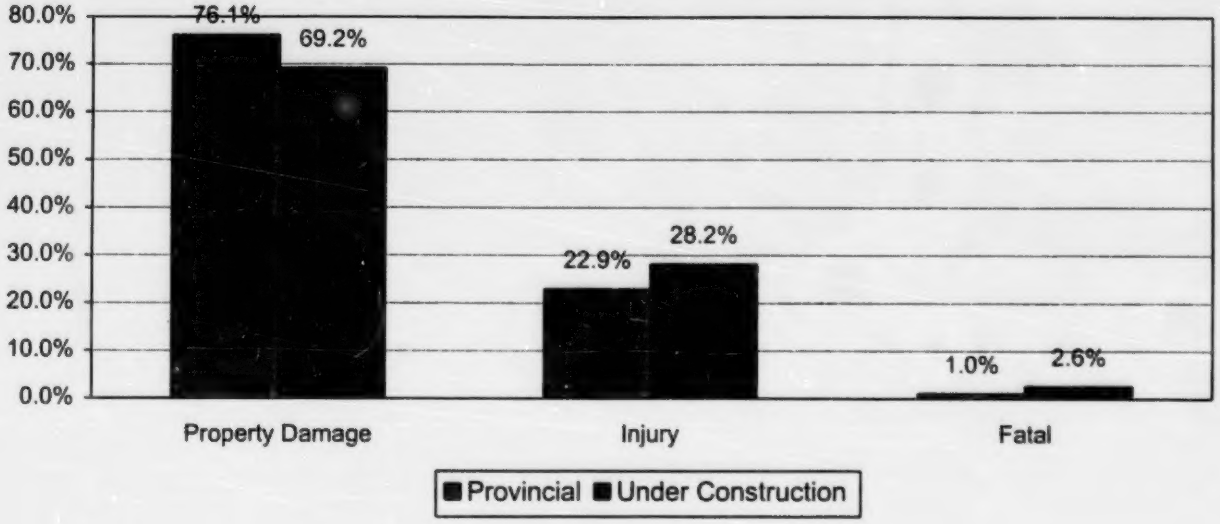
Section 2

Comparison of Construction Sites with Non-Construction Sites

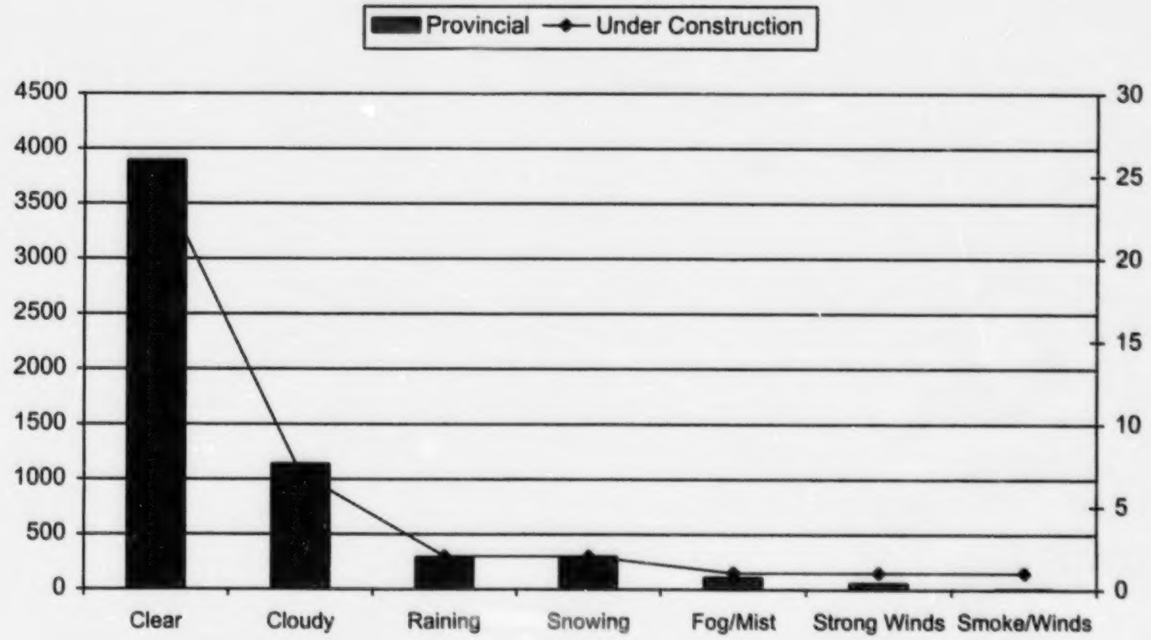
Provincial Highway Collisions in Construction/Repair Areas



This section compares Provincial Highway construction-related collisions with the total Provincial Highway Collisions. Construction-related collisions are defined as those collisions that occurred on a roadway where the road condition was described as "under repair" or "under construction". In 1999, there were 39 such construction-related collisions, which compares with 53 such collisions in 1998.

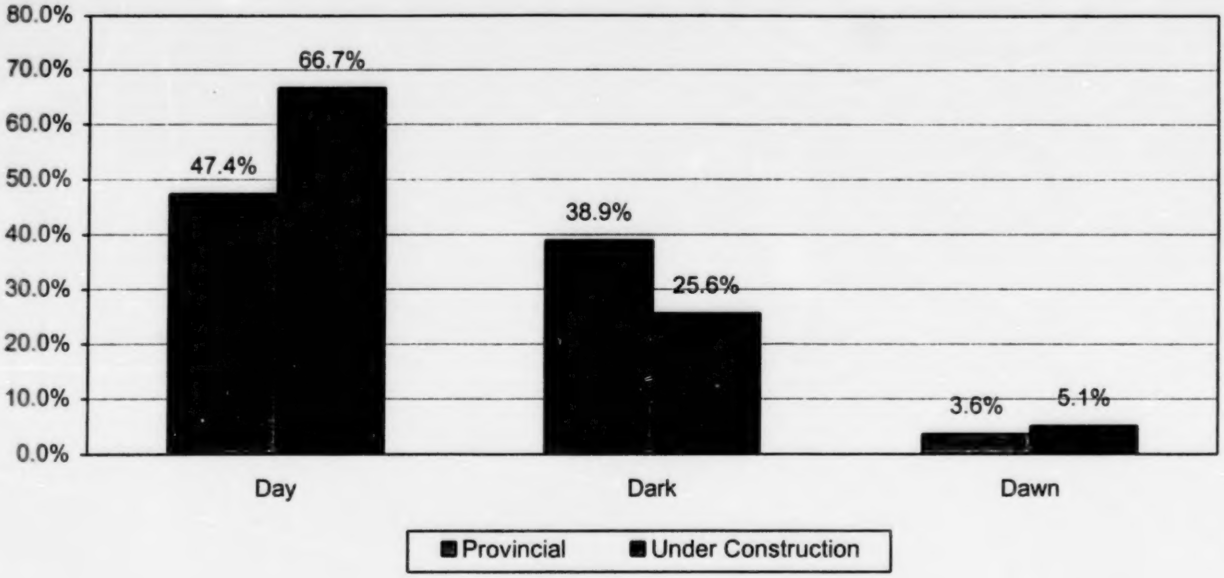


Comparison of Highway Collisions
by Severity
1999



Comparison of Highway Collisions
by Weather Condition
1999

Comparison of Highway Collisions By Light Condition 1999



Comparison of Highway Collisions by Traffic Control/Advisory 1999

Traffic Control	% in Province	% in Construction/Repair Areas
Traffic Signal/Control Device	10.0	16.6
Yield	1.1	16.6
Officer/Flagman	0.2	33.3
Stop	4.9	16.6
Warning Sign	0.1	16.6

Comparison of Highway Collisions
by Site Type
1999

Site Type	% in Province	% in Construction/Repair Area
Not Applicable/Other	15.9	23.1
Intersection	25.9	25.6
Between Intersections	51.7	43.6
Bridge/Overpass	2.0	5.1
Off Road	1.1	2.6

Comparison of Highway Collisions
by First Collision or Event
1999

Collision With or Event	% in Province	% in Construction/Repair Areas
Ditch/Embankment/Earth Slope	8.2	6.9
Rock Face	0.1	1.7
Impact Attenuator	1.3	3.4
Vehicle	52.1	58.6
Bicyclist	0.2	1.7
Animal	27.8	10.3
Pedestrian	0.4	1.7
Construction Machinery	0.1	1.7
Ran Off Road	3.6	5.1
Overturned	0.9	6.9
Skidding/Sliding	0.5	1.7

Comparison of Highway Collisions by Contributing Factors* 1999

Contributing Factor	Provincial		Construction/Repair Areas	
	No. of Collisions	Provincial %	No. of Collisions	Construction/ Repair Areas %
Driver Action				
Driving Properly	3170	19.2	23	31.1
Following Too Closely	197	1.2	1	0.6
Exceeding Speed Limit	29	0.2	1	0.6
Failed to Yield right of Way	247	1.5	1	0.6
Disobey Traffic Control Device/Officer	113	0.7	1	0.6
Taking Avoiding Action	9	0.1	1	0.6
Driver Inexperience	111	0.7	1	0.6
Pedestrian Error/Confusion	12	0.1	1	0.6
Human Condition				
Apparently Normal	4143	25.1	28	16.1
Distraction/Inattention	321	1.9	1	0.6
Vehicle Condition				
No Apparent Defect	3275	19.8	22	12.6
Defective Tires	27	0.2	1	0.6
Overloaded/Oversized	2	0.0	1	0.6
Environmental Condition				
Animal Action -Wild	2205	13.3	6	3.4
Slippery Road Surface	687	4.2	2	1.1
Obstruction/Debris on Roadway	38	0.2	7	4.0
View Obstructed/Limited	82	0.5	1	0.6
Construction Zone	8	0.0	5	2.9
Defective Driving Surface	51	0.3	3	1.7
Weather	113	0.7	1	0.6

*Note: There is a maximum of three contributing factors recorded on the Traffic Accident Report for each vehicle involved in a collision. The data presented in this table is a compilation of total at-fault 'contributing factors' related to collisions at construction sites.

Comparison of Highway Collisions by Contributing Factors* 1999

Contributing Factor	Provincial		Construction/Repair Areas	
	No. of Collisions	Provincial %	No. of Collisions	Construction/ Repair Areas %
Driver Action				
Driving Properly	3170	19.2	23	31.1
Following Too Closely	197	1.2	1	0.6
Exceeding Speed Limit	29	0.2	1	0.6
Failed to Yield right of Way	247	1.5	1	0.6
Disobey Traffic Control Device/Officer	113	0.7	1	0.6
Taking Avoiding Action	9	0.1	1	0.6
Driver Inexperience	111	0.7	1	0.6
Pedestrian Error/Confusion	12	0.1	1	0.6
Human Condition				
Apparently Normal	4143	25.1	28	16.1
Distraction/Inattention	321	1.9	1	0.6
Vehicle Condition				
No Apparent Defect	3275	19.8	22	12.6
Defective Tires	27	0.2	1	0.6
Overloaded/Oversized	2	0.0	1	0.6
Environmental Condition				
Animal Action -Wild	2205	13.3	6	3.4
Slippery Road Surface	687	4.2	2	1.1
Obstruction/Debris on Roadway	38	0.2	7	4.0
View Obstructed/Limited	82	0.5	1	0.6
Construction Zone	8	0.0	5	2.9
Defective Driving Surface	51	0.3	3	1.7
Weather	113	0.7	1	0.6

*Note: There is a maximum of three contributing factors recorded on the Traffic Accident Report for each vehicle involved in a collision. The data presented in this table is a compilation of total at-fault 'contributing factors' related to collisions at construction sites.

Section 3

Comparison of Intersection Collision Data

1990 - 1999

The 11 intersection classifications used in the "1999 Traffic Collision Statistics Report" have been broken down into rural, suburban and urban categories in this report. The Rate-Quality Control Technique has been used. In this method, a critical collision rate is calculated for each intersection based on the average for all locations in the specific group. The difference between the actual collision rate and the critical collision rate is referred to as the criticality.

i.e. criticality = actual collision rate - critical collision rate.

A positive criticality may be as a result of unfavourable site characteristics that may warrant further study.

In the rate-quality control equation, the desired level of confidence is chosen by deciding which value of the probability constant (k) will be used. As the chosen value of the confidence level increases in size (i.e. 90%, 95%, 99.5%) the value of the critical collision rate also increases. As the critical collision rate becomes higher, fewer locations will exceed the critical collision rate; confidence is then higher that the location is truly abnormal for its group.

In the analysis of the intersection data a maximum of 10 years of data have been included. The critical collision rates for each intersection have been omitted to allow for a clearer presentation of the data. For those intersections where n/a is shown, for a given year, the results have been adjusted to reflect the unavailable data.

Intersection Classification: Expressway - Expressway - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=3.012 Conf=99.5%
7/101	21770	12	24	4	2	8	11	18	7	6	2	1.18	0.09
44/59	9630	9	5	4	4	7	2	2	3	7	3	1.31	0.05
1/100/101W	36010	17	20	16	20	16	14	5	12	6	12	1.05	0.02
1/12	11845	4	4	1	1	3	12	10	4	3	3	1.04	-0.17
6/101	9680	5	5	3	2	1	2	1	6	6	3	0.96	-0.29
8/101	25850	7	17	3	5	6	4	4	10	4	2	0.66	-0.41
59/100	16620	8	4	0	7	3	3	5	4	0	5	0.64	-0.50
1/100/101E	17275	10	3	4	1	4	2	2	8	1	5	0.63	-0.50
59/101	34737	8	13	4	6	5	3	6	2	2	7	0.44	-0.59
67/230	4675	0	1	4	2	0	1	1	0	1	0	0.59	-0.88
12/44W	3795	1	0	2	1	1	0	1	1	0	2	0.65	-0.89
12/44E	2895	3	2	0	0	1	0	0	0	0	0	0.57	-1.09
29/75	3080	1	1	0	0	1	1	2	0	0	0	0.53	-1.10

Average Collision Rate for Analysed Intersections = 0.79

Intersections Presented	13
Total Intersections Analysed	13
No. of Intersections This Classification	13

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual Traffic *on Manitoba Highways* publication.

Intersection Classification: Expressway - Expressway - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=3.012 Conf=99.5%
7/101	21770	12	24	4	2	8	11	18	7	6	2	1.18	0.09
44/59	9630	9	5	4	4	7	2	2	3	7	3	1.31	0.05
1/100/101W	36010	17	20	16	20	16	14	5	12	6	12	1.05	0.02
1/12	11845	4	4	1	1	3	12	10	4	3	3	1.04	-0.17
6/101	9680	5	5	3	2	1	2	1	6	6	3	0.96	-0.29
8/101	25850	7	17	3	5	6	4	4	10	4	2	0.66	-0.41
59/100	16620	8	4	0	7	3	3	5	4	0	5	0.64	-0.50
1/100/101E	17275	10	3	4	1	4	2	2	8	1	5	0.63	-0.50
59/101	34737	8	13	4	6	5	3	6	2	2	7	0.44	-0.59
67/230	4675	0	1	4	2	0	1	1	0	1	0	0.59	-0.88
12/44W	3795	1	0	2	1	1	0	1	1	0	2	0.65	-0.89
12/44E	2895	3	2	0	0	1	0	0	0	0	0	0.57	-1.09
29/75	3080	1	1	0	0	1	1	2	0	0	0	0.53	-1.10

Average Collision Rate for Analysed Intersections = 0.79

Intersections Presented	13
Total Intersections Analysed	13
No. of Intersections This Classification	13

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual Traffic *on Manitoba Highways* publication.

Intersection Classification: Expressway - Primary Arterial - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=3.055 Conf=99.5%
12/15	3965	2	3	3	3	1	1	1	3	0	4	1.45	0.06
14/75	4045	2	1	1	1	1	3	4	1	4	2	1.35	-0.03
1/83E	4480	5	4	2	1	1	1	1	2	2	1	1.22	-0.13
75/100	18250	3	12	7	2	3	9	6	6	2	6	0.84	-0.17
4/59	5135	2	1	2	2	2	1	0	1	1	1	0.69	-0.61
8/230	7810	1	1	2	1	4	0	2	1	2	1	0.53	-0.66
67/230	4680	0	1	4	2	0	1	1	0	1	0	0.59	-0.75
8/27	11080	0	3	2	1	0	1	2	1	0	0	0.25	-0.86
2/100	10430	1	0	0	1	1	1	1	1	2	1	0.24	-0.88
6/67	5236	2	1	0	2	1	0	0	1	0	0	0.37	-0.93
1/83W	3850	n/a	0	0	0	0	1	0	0	0	0	0.08	-1.37

Average Collision Rate for Analysed Intersections	0.69
Intersections Presented	11
Total Intersections Analysed	11
No. of Intersections This Classification	11

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Expressway - Secondary Arterial - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.779 Conf=99.5%
75/201	3455	0	1	1	1	4	6	1	2	5	2	1.82	0.83
59/317	4260	1	2	3	1	3	1	1	1	0	2	0.96	0.03
1/34	6270	3	4	2	1	1	2	1	1	2	2	0.83	-0.01
1/5	7225	2	5	0	8	0	2	1	0	2	1	0.80	-0.02
9/101	30720	n/a	8	6	2	3	12	3	7	6	3	0.50	-0.13
1/240	10275	8	7	1	1	1	0	1	0	0	0	0.51	-0.24
1/13/430	11035	5	3	2	2	1	1	3	0	0	1	0.45	-0.29
1/206W	10300	n/a	0	2	4	0	1	2	3	2	2	0.47	-0.30
1/1AWPLP	10690	n/a	1	3	0	1	4	1	2	2	0	0.40	-0.36
1/11/610	5192	0	1	4	0	0	1	0	1	2	1	0.53	-0.36
44/206	4760	n/a	0	0	1	1	3	0	1	1	2	0.58	-0.36
52/59	5065	0	0	0	3	0	1	3	2	0	0	0.49	-0.40
9/9AS	17630	2	3	4	2	0	1	0	0	1	1	0.22	-0.46
1/1AEPLP	9800	n/a	0	0	1	0	3	2	2	0	1	0.28	-0.50
1/44	4120	2	0	0	0	2	0	0	1	0	1	0.40	-0.55
1/1AWBRN	6205	n/a	0	0	2	1	0	0	2	1	0	0.29	-0.57
9/67	10100	n/a	0	1	1	0	0	1	1	0	1	0.15	-0.62
1/257	4425	n/a	0	0	2	0	0	0	1	1	1	0.34	-0.61
1/250E	5620	0	1	0	0	1	0	1	0	1	1	0.24	-0.62
9/230	6350	1	0	0	0	0	1	0	1	0	0	0.13	-0.71
44/214	2680	0	1	0	0	1	0	1	0	0	0	0.31	-0.77
12/59S	2365	n/a	0	0	0	1	0	1	0	0	1	0.39	-0.77
1/340	5920	n/a	0	0	0	0	1	0	0	0	0	0.05	-0.83
1/250W/601	5095	n/a	0	0	0	0	0	1	0	0	0	0.06	-0.86
1/21	5020	n/a	1	0	0	0	0	0	0	0	0	0.06	-0.86
12/304/500	2285	0	0	0	0	0	0	1	0	0	0	0.12	-1.01

Average Collision Rate for Analysed Intersections = 0.44

Intersections Presented	26
Total Intersections Analysed	26
No. of Intersections This Classification	26
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Expressway - Primary Arterial - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=3.055 Conf=99.5%
12/15	3965	2	3	3	3	1	1	1	3	0	4	1.45	0.06
14/75	4045	2	1	1	1	1	3	4	1	4	2	1.35	-0.03
1/83E	4480	5	4	2	1	1	1	1	2	2	1	1.22	-0.13
75/100	18250	3	12	7	2	3	9	6	6	2	6	0.84	-0.17
4/59	5135	2	1	2	2	2	1	0	1	1	1	0.69	-0.61
8/230	7810	1	1	2	1	4	0	2	1	2	1	0.53	-0.66
67/230	4680	0	1	4	2	0	1	1	0	1	0	0.59	-0.75
8/27	11080	0	3	2	1	0	1	2	1	0	0	0.25	-0.86
2/100	10430	1	0	0	1	1	1	1	1	2	1	0.24	-0.88
6/67	5236	2	1	0	2	1	0	0	1	0	0	0.37	-0.93
1/83W	3850	n/a	0	0	0	0	1	0	0	0	0	0.08	-1.37

Average Collision Rate for Analysed Intersections	0.69

Intersections Presented	11
Total Intersections Analysed	11
No. of Intersections This Classification	11

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Expressway - Secondary Arterial - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.779 Conf=99.5%
75/201	3455	0	1	1	1	4	6	1	2	5	2	1.82	0.83
59/317	4260	1	2	3	1	3	1	1	1	0	2	0.96	0.03
1/34	6270	3	4	2	1	1	2	1	1	2	2	0.83	-0.01
1/5	7225	2	5	0	8	0	2	1	0	2	1	0.80	-0.02
9/101	30720	n/a	8	6	2	3	12	3	7	6	3	0.50	-0.13
1/240	10275	8	7	1	1	1	0	1	0	0	0	0.51	-0.24
1/13/430	11035	5	3	2	2	1	1	3	0	0	1	0.45	-0.29
1/206W	10300	n/a	0	2	4	0	1	2	3	2	2	0.47	-0.30
1/1AWPLP	10690	n/a	1	3	0	1	4	1	2	2	0	0.40	-0.36
1/11/610	5192	0	1	4	0	0	1	0	1	2	1	0.53	-0.36
44/206	4760	n/a	0	0	1	1	3	0	1	1	2	0.58	-0.36
52/59	5065	0	0	0	3	0	1	3	2	0	0	0.49	-0.40
9/9AS	17630	2	3	4	2	0	1	0	0	1	1	0.22	-0.46
1/1AEPLP	9800	n/a	0	0	1	0	3	2	2	0	1	0.28	-0.50
1/44	4120	2	0	0	0	2	0	0	1	0	1	0.40	-0.55
1/1AWBRN	6205	n/a	0	0	2	1	0	0	2	1	0	0.29	-0.57
9/67	10100	n/a	0	1	1	0	0	1	1	0	1	0.15	-0.62
1/257	4425	n/a	0	0	2	0	0	0	1	1	1	0.34	-0.61
1/250E	5620	0	1	0	0	1	0	1	0	1	1	0.24	-0.62
9/230	6350	1	0	0	0	0	1	0	1	0	0	0.13	-0.71
44/214	2680	0	1	0	0	1	0	1	0	0	0	0.31	-0.77
12/59S	2365	n/a	0	0	0	1	0	1	0	0	1	0.39	-0.77
1/340	5920	n/a	0	0	0	0	1	0	0	0	0	0.05	-0.83
1/250W/601	5095	n/a	0	0	0	0	0	1	0	0	0	0.06	-0.86
1/21	5020	n/a	1	0	0	0	0	0	0	0	0	0.06	-0.86
12/304/500	2285	0	0	0	0	0	0	1	0	0	0	0.12	-1.01

Average Collision Rate for Analysed Intersections = 0.44

Intersections Presented	26
Total Intersections Analysed	26
No. of Intersections This Classification	26

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Expressway - Secondary Arterial - Urban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=5.841 Conf=99.5%
23/75N	8800	3	3	1	1	2	2	1	1	2	5	0.65	-0.62
15/206	9320	1	3	1	3	0	2	5	1	2	1	0.56	-0.69
23/75S	7320	1	1	1	0	1	1	0	1	2	1	0.34	-1.01

Average Collision Rate for Analysed Intersections = 0.52

Intersections Presented	3
Total Intersections Analysed	3
No. of Intersections This Classification	3

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Expressway - Collector - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.576 Conf=99.5%
12/501	1870	3	0	1	1	1	2	0	2	2	3	2.20	0.81
59/509	4500	2	0	1	1	3	6	2	4	3	3	1.52	0.44
1/256	3035	5	1	4	2	0	2	1	0	0	2	1.53	0.33
59/311	5690	7	0	1	3	2	3	2	4	2	1	1.20	0.18
8/220	8820	5	2	3	2	3	4	4	1	2	2	0.87	-0.06
1/26	11190	2	4	7	3	3	3	3	3	2	2	0.78	-0.11
101/221	9850	4	7	5	0	0	2	3	5	0	2	0.78	-0.13
59/405	4500	2	3	2	1	0	1	2	1	1	2	0.91	-0.17
75/205	5010	0	1	3	0	4	2	1	2	1	0	0.77	-0.29
59/300N	5665	2	2	0	0	2	3	1	2	2	0	0.68	-0.35
59/213	15230	5	6	3	0	1	4	3	0	3	1	0.47	-0.38
15/207	9580	1	0	2	3	0	3	3	3	1	1	0.49	-0.43
100/330	9850	1	0	2	2	2	2	0	3	2	1	0.42	-0.49
44/215/302	6460	1	1	0	1	5	0	2	1	0	0	0.47	-0.53
59/210S	4810	1	0	1	3	2	0	0	0	1	1	0.51	-0.55
1/308	3660	0	0	0	2	0	2	1	1	0	1	0.52	-0.62
75/246	4160	0	1	1	1	1	0	0	1	0	2	0.46	-0.64
1/302	4640	1	1	1	0	1	2	0	0	1	0	0.41	-0.66
1/350	6200	0	0	0	0	0	3	1	2	1	0	0.31	-0.70
59/202	21380	2	0	0	1	2	1	0	0	1	0	0.09	-0.71
1/241	9780	0	1	0	0	2	3	0	0	0	1	0.20	-0.72
75/305	5010	1	0	0	0	0	2	0	2	0	1	0.33	-0.73
59/300S	5665	0	1	1	1	1	0	0	0	1	1	0.29	-0.74
59/304S	3010	1	0	0	0	1	0	0	1	1	1	0.46	-0.75
59/305	3450	0	1	1	1	0	1	0	0	0	1	0.40	-0.76
1/331	8335	1	0	0	1	1	1	0	0	1	0	0.16	-0.78
59/210N	5120	0	0	1	1	0	2	0	1	0	0	0.27	-0.78
59/612ILE	7090	0	1	0	0	0	0	1	1	1	0	0.15	-0.82
1/242	6035	0	0	1	0	1	0	0	1	0	1	0.18	-0.83
59/212N	4904	2	1	0	0	0	0	0	0	0	0	0.17	-0.89

Average Collision Rate for Analysed Intersections = 0.57

Intersections Presented	30
Total Intersections Analysed	32
No. of Intersections This Classification	96

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Expressway - Secondary Arterial - Urban													
Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=5.841 Conf=99.5%
23/75N	8800	3	3	1	1	2	2	1	1	2	5	0.65	-0.62
15/206	9320	1	3	1	3	0	2	5	1	2	1	0.56	-0.69
23/75S	7320	1	1	1	0	1	1	0	1	2	1	0.34	-1.01

Average Collision Rate for Analysed Intersections = 0.52

Intersections Presented	3
Total Intersections Analysed	3
No. of Intersections This Classification	3
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Expressway - Collector - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.576 Conf=99.5%
12/501	1870	3	0	1	1	1	2	0	2	2	3	2.20	0.81
59/509	4500	2	0	1	1	3	6	2	4	3	3	1.52	0.44
1/256	3035	5	1	4	2	0	2	1	0	0	2	1.53	0.33
59/311	5690	7	0	1	3	2	3	2	4	2	1	1.20	0.18
8/220	8820	5	2	3	2	3	4	4	1	2	2	0.87	-0.06
1/26	11190	2	4	7	3	3	3	3	3	2	2	0.78	-0.11
101/221	9850	4	7	5	0	0	2	3	5	0	2	0.78	-0.13
59/405	4500	2	3	2	1	0	1	2	1	1	2	0.91	-0.17
75/205	5010	0	1	3	0	4	2	1	2	1	0	0.77	-0.29
59/300N	5665	2	2	0	0	2	3	1	2	2	0	0.68	-0.35
59/213	15230	5	6	3	0	1	4	3	0	3	1	0.47	-0.38
15/207	9580	1	0	2	3	0	3	3	3	1	1	0.49	-0.43
100/330	9850	1	0	2	2	2	2	0	3	2	1	0.42	-0.49
44/215/302	6460	1	1	0	1	5	0	2	1	0	0	0.47	-0.53
59/210S	4810	1	0	1	3	2	0	0	0	1	1	0.51	-0.55
1/308	3660	0	0	0	2	0	2	1	1	0	1	0.52	-0.62
75/246	4160	0	1	1	1	1	0	0	1	0	2	0.46	-0.64
1/302	4640	1	1	1	0	1	2	0	0	1	0	0.41	-0.66
1/350	6200	0	0	0	0	0	3	1	2	1	0	0.31	-0.70
59/202	21380	2	0	0	1	2	1	0	0	1	0	0.09	-0.71
1/241	9780	0	1	0	0	2	3	0	0	0	1	0.20	-0.72
75/305	5010	1	0	0	0	0	2	0	2	0	1	0.33	-0.73
59/300S	5665	0	1	1	1	1	0	0	0	1	1	0.29	-0.74
59/304S	3010	1	0	0	0	1	0	0	1	1	1	0.46	-0.75
59/305	3450	0	1	1	1	0	1	0	0	0	1	0.40	-0.76
1/331	8335	1	0	0	1	1	1	0	0	1	0	0.16	-0.78
59/210N	5120	0	0	1	1	0	2	0	1	0	0	0.27	-0.78
59/612ILE	7090	0	1	0	0	0	0	1	1	1	0	0.15	-0.82
1/242	6035	0	0	1	0	1	0	0	1	0	1	0.18	-0.83
59/212N	4904	2	1	0	0	0	0	0	0	0	0	0.17	-0.89

Average Collision Rate for Analysed Intersections = 0.57

Intersections Presented	30
Total Intersections Analysed	32
No. of Intersections This Classification	96

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Expressway - Collector - Suburban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=4.604 Conf=99/5%
14/673WIN	9949	3	1	1	1	1	3	4	1	4	3	0.61	-0.33
1/259E/678	6283	1	1	3	1	1	2	2	2	1	3	0.74	-0.33
1/334W	14570	0	0	0	0	2	3	0	1	2	1	0.17	-0.68
101/204N	16344	n/a	n/a	3	2	0	0	0	0	3	1	0.19	-0.68

Average Collision Rate for Analysed Intersections = 0.43

Intersections Presented	4
Total Intersections Analysed	4
No. of Intersections This Classification	4

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Primary Arterial - Rural													
Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.831 Conf=99.5%
2/3	6140	3	5	7	6	1	4	5	5	2	4	1.87	0.55
10/16S	4580	n/a	7	4	2	1	3	4	2	0	3	1.73	0.27
5/10E	1885	0	1	3	1	2	1	1	0	1	2	1.74	-0.06
5/10W	2755	1	3	1	1	2	1	1	0	1	1	1.19	-0.42
8/68/625	1735	n/a	0	1	0	1	1	1	2	1	1	1.40	-0.51
8/67	5745	2	2	4	2	1	0	0	2	2	2	0.81	-0.54
23/59	2395	0	3	0	0	0	1	0	3	1	0	0.92	-0.77
2/10S	2990	0	1	1	1	1	0	0	1	1	1	0.64	-0.94
2/83	1315	0	1	0	0	0	1	1	0	1	1	1.04	-0.98
16/34/675E	3875	2	0	2	0	0	0	2	0	0	1	0.49	-0.98
6/68N	1480	0	0	1	2	0	0	1	1	0	0	0.93	-1.02
16/83N	3105	1	0	1	1	0	0	1	0	1	0	0.44	-1.12
2/10N	4215	1	1	0	0	0	1	1	0	0	0	0.26	-1.19
5/68	2515	n/a	0	0	0	0	0	0	0	1	0	0.12	-1.59
16/83S	1430	0	0	0	0	0	0	0	1	0	0	0.19	-1.78
6/39	580	n/a	0	0	1	0	0	0	0	0	1	1.05	-1.80
42/83E	1295	n/a	0	0	0	0	0	0	0	0	1	0.24	-1.87
10/60	670	0	0	0	0	0	1	0	0	0	0	0.41	-2.17
10/39	655	0	0	1	0	0	0	0	0	0	0	0.42	-2.19
6/60	605	0	0	0	0	0	0	0	1	0	0	0.45	-2.23
42/83W	1000	n/a	0	0	0	0	0	0	0	0	0	0.00	-2.31

Average Collision Rate for Analysed Intersections =	0.78
Intersections Presented	21
Total Intersections Analysed	21
No. of Intersections This Classification	21
Data Sorted at 99.5% Confidence Level	
Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.	

Intersection Classification: Expressway - Collector - Suburban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=4.604 Conf=99/5%
14/673WIN	9949	3	1	1	1	1	3	4	1	4	3	0.61	-0.33
1/259E/678	6283	1	1	3	1	1	2	2	2	1	3	0.74	-0.33
1/334W	14570	0	0	0	0	2	3	0	1	2	1	0.17	-0.68
101/204N	16344	n/a	n/a	3	2	0	0	0	0	3	1	0.19	-0.68

Average Collision Rate for Analysed Intersections = 0.43

Intersections Presented	4
Total Intersections Analysed	4
No. of Intersections This Classification	4

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Primary Arterial - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.831 Conf=99.5%
2/3	6140	3	5	7	6	1	4	5	5	2	4	1.87	0.55
10/16S	4580	n/a	7	4	2	1	3	4	2	0	3	1.73	0.27
5/10E	1885	0	1	3	1	2	1	1	0	1	2	1.74	-0.06
5/10W	2755	1	3	1	1	2	1	1	0	1	1	1.19	-0.42
8/68/625	1735	n/a	0	1	0	1	1	1	2	1	1	1.40	-0.51
8/67	5745	2	2	4	2	1	0	0	2	2	2	0.81	-0.54
23/59	2395	0	3	0	0	0	1	0	3	1	0	0.92	-0.77
2/10S	2990	0	1	1	1	1	0	0	1	1	1	0.64	-0.94
2/83	1315	0	1	0	0	0	1	1	0	1	1	1.04	-0.98
16/34/675E	3875	2	0	2	0	0	0	2	0	0	1	0.49	-0.98
6/68N	1480	0	0	1	2	0	0	1	1	0	0	0.93	-1.02
16/83N	3105	1	0	1	1	0	0	1	0	1	0	0.44	-1.12
2/10N	4215	1	1	0	0	0	1	1	0	0	0	0.26	-1.19
5/68	2515	n/a	0	0	0	0	0	0	0	1	0	0.12	-1.59
16/83S	1430	0	0	0	0	0	0	0	1	0	0	0.19	-1.78
6/39	580	n/a	0	0	1	0	0	0	0	0	1	1.05	-1.80
42/83E	1295	n/a	0	0	0	0	0	0	0	0	1	0.24	-1.87
10/60	670	0	0	0	0	0	1	0	0	0	0	0.41	-2.17
10/39	655	0	0	1	0	0	0	0	0	0	0	0.42	-2.19
6/60	605	0	0	0	0	0	0	0	1	0	0	0.45	-2.23
42/83W	1000	n/a	0	0	0	0	0	0	0	0	0	0.00	-2.31

Average Collision Rate for Analysed Intersections =	0.78
Intersections Presented	21
Total Intersections Analysed	21
No. of Intersections This Classification	21

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Primary Arterial -Suburban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=4.604 Conf=99.5%
5/16E	4911	0	2	0	0	0	0	0	2	3	4	0.61	-0.73
5/16W	6336	1	0	1	2	1	0	1	2	2	0	0.43	-0.81
6/68S/417	2320	0	0	1	0	0	1	1	0	0	2	0.59	-1.15
3/83N	1280	n/a	0	1	0	0	0	0	0	0	1	0.48	-1.80

Average Collision Rate for Analysed Intersections = 0.53

Intersections Presented	4
Total Intersections Analysed	4
No. of Intersections This Classification	4

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Secondary Arterial - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.763 Conf=99.5%
10/16N/16A	4060	3	5	2	1	2	0	3	1	6	1	1.62	0.12
5/276	2600	0	2	3	1	3	1	3	0	0	1	1.48	-0.21
3/23	3850	1	3	1	0	1	3	2	2	1	1	1.07	-0.45
2/5	1560	1	1	0	0	1	0	1	2	1	1	1.40	-0.55
11/44N	1610	0	1	2	2	0	0	2	0	0	1	1.36	-0.57
5/50/361	1610	1	2	1	0	1	1	1	0	0	0	1.19	-0.74
16/21	2200	0	0	0	1	1	0	0	1	4	1	1.00	-0.76
10/10AEFF	2370	3	0	1	1	0	0	0	1	2	0	0.92	-0.80
12/89/203	970	0	0	1	0	1	0	2	1	0	0	1.41	-0.87
2/34	1680	0	1	1	0	1	0	2	0	1	0	0.98	-0.93
10/357	1690	1	0	1	1	0	0	1	0	1	1	0.97	-0.93
3/10	1710	0	1	1	1	0	0	1	0	2	0	0.96	-0.94
12/59N	3650	0	1	1	1	0	2	2	0	1	0	0.60	-0.94
8/17	2830	2	1	0	0	1	0	1	1	0	1	0.68	-0.96
59/201	1360	0	1	1	1	0	0	1	0	1	0	1.01	-1.03
7/17	2610	1	0	1	0	1	1	1	0	0	1	0.63	-1.05
16/50	2680	0	1	0	0	2	0	2	0	0	1	0.61	-1.05
2/13	2730	0	1	1	1	0	1	1	0	0	0	0.50	-1.16
49/83	1110	1	0	1	0	1	0	0	1	0	0	0.99	-1.19
6/325S	2990	0	0	0	0	2	1	0	0	0	0	0.27	-1.34
68/278	880	0	0	0	0	0	0	0	0	3	0	0.93	-1.43
10/77	910	0	1	0	0	0	2	0	0	0	0	0.90	-1.43
16/45	2810	0	0	0	0	0	1	0	0	0	1	0.19	-1.45
5/5AN	3000	0	0	0	0	0	0	0	1	0	0	0.09	-1.53
2/21E	1280	0	0	0	0	0	0	0	0	1	0	0.21	-1.87
2/21W	1150	1	0	0	0	0	0	0	0	0	0	0.24	-1.92
10/20	930	0	0	0	0	0	0	0	0	1	0	0.29	-2.03
3/83S	780	1	0	0	0	0	0	0	0	0	0	0.35	-2.12

Average Collision Rate for Analysed Intersections =	0.82
Intersections Presented	28
Total Intersections Analysed	28
No. of Intersections This Classification	51
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Primary Arterial -Suburban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=4.604 Conf=99.5%
5/16E	4911	0	2	0	0	0	0	0	2	3	4	0.61	-0.73
5/16W	6336	1	0	1	2	1	0	1	2	2	0	0.43	-0.81
6/68S/417	2320	0	0	1	0	0	1	1	0	0	2	0.59	-1.15
3/83N	1280	n/a	0	1	0	0	0	0	0	0	1	0.48	-1.80

Average Collision Rate for Analysed Intersections = 0.53

Intersections Presented	4
Total Intersections Analysed	4
No. of Intersections This Classification	4
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Secondary Arterial - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.763 Conf=99.5%
10/16N/16A	4060	3	5	2	1	2	0	3	1	6	1	1.62	0.12
5/276	2600	0	2	3	1	3	1	3	0	0	1	1.48	-0.21
3/23	3850	1	3	1	0	1	3	2	2	1	1	1.07	-0.45
2/5	1560	1	1	0	0	1	0	1	2	1	1	1.40	-0.55
11/44N	1610	0	1	2	2	0	0	2	0	0	1	1.36	-0.57
5/50/361	1610	1	2	1	0	1	1	1	0	0	0	1.19	-0.74
16/21	2200	0	0	0	1	1	0	0	1	4	1	1.00	-0.76
10/10AEFF	2370	3	0	1	1	0	0	0	1	2	0	0.92	-0.80
12/89/203	970	0	0	1	0	1	0	2	1	0	0	1.41	-0.87
2/34	1680	0	1	1	0	1	0	2	0	1	0	0.98	-0.93
10/357	1690	1	0	1	1	0	0	1	0	1	1	0.97	-0.93
3/10	1710	0	1	1	1	0	0	1	0	2	0	0.96	-0.94
12/59N	3650	0	1	1	1	0	2	2	0	1	0	0.60	-0.94
8/17	2830	2	1	0	0	1	0	1	1	0	1	0.68	-0.96
59/201	1360	0	1	1	1	0	0	1	0	1	0	1.01	-1.03
7/17	2610	1	0	1	0	1	1	1	0	0	1	0.63	-1.05
16/50	2680	0	1	0	0	2	0	2	0	0	1	0.61	-1.05
2/13	2730	0	1	1	1	0	1	1	0	0	0	0.50	-1.16
49/83	1110	1	0	1	0	1	0	0	1	0	0	0.99	-1.19
6/325S	2990	0	0	0	0	2	1	0	0	0	0	0.27	-1.34
68/278	880	0	0	0	0	0	0	0	0	3	0	0.93	-1.43
10/77	910	0	1	0	0	0	2	0	0	0	0	0.90	-1.43
16/45	2810	0	0	0	0	0	1	0	0	0	1	0.19	-1.45
5/5AN	3000	0	0	0	0	0	0	0	1	0	0	0.09	-1.53
2/21E	1280	0	0	0	0	0	0	0	0	1	0	0.21	-1.87
2/21W	1150	1	0	0	0	0	0	0	0	0	0	0.24	-1.92
10/20	930	0	0	0	0	0	0	0	0	1	0	0.29	-2.03
3/83S	780	1	0	0	0	0	0	0	0	0	0	0.35	-2.12

Average Collision Rate for Analysed Intersections =	0.82

Intersections Presented	28
Total Intersections Analysed	28
No. of Intersections This Classification	51

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Secondary Arterial - Urban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=9.925 Conf=99.5%
2/22/250	4020	n/a	1	0	2	0	0	1	1	3	1	0.68	-1.57
6/325N	3170	0	0	0	0	0	0	0	2	0	0	0.17	-2.20

Average Collision Rate for Analysed Intersections = 0.43

Intersections Presented	2
Total Intersections Analysed	2
No. of Intersections This Classification	2

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Collector -Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.576 Conf=99.5%
8/231	3250	5	5	7	1	0	3	5	2	4	5	3.12	2.15
83/366	910	0	1	0	1	1	0	0	3	1	0	2.11	0.60
8/229	2740	1	0	3	2	0	0	3	0	0	1	1.00	-0.02
10/24/262	3640	3	0	0	0	2	2	0	0	1	2	0.75	-0.18
6/518	2620	1	1	1	0	3	1	0	0	0	1	0.84	-0.20
12/302	1220	1	0	1	0	1	1	0	0	1	0	1.12	-0.22
2/332	2020	2	1	0	0	0	1	0	0	0	2	0.81	-0.31
3/305	2270	0	0	3	0	0	0	1	1	1	0	0.72	-0.36
59/629STM	2050	1	0	0	0	0	0	0	3	0	1	0.67	-0.45
391/633THO	2200	0	2	0	0	0	0	1	1	0	1	0.62	-0.47
6/239	1420	0	0	0	0	1	0	0	0	2	1	0.77	-0.50
59/205N	2540	1	1	1	1	0	1	0	0	0	0	0.54	-0.50
2/627GLE	1560	1	0	1	2	0	0	0	0	0	0	0.70	-0.53
59/403	1853	0	0	0	0	0	0	0	2	2	0	0.59	-0.57
16/250/651	1860	0	2	0	0	0	1	0	0	0	1	0.59	-0.57
8/519	1960	2	0	0	1	1	0	0	0	0	0	0.56	-0.58
4/508	2310	0	0	1	1	0	1	0	1	0	0	0.47	-0.60
67/322	2540	0	0	0	0	1	2	1	0	0	0	0.43	-0.61
10/266	1770	0	1	0	0	0	0	2	0	0	0	0.46	-0.71
16/651NEW	1970	0	3	0	0	0	0	0	0	0	0	0.42	-0.72
5/274E	2740	0	0	0	0	0	1	1	0	0	1	0.30	-0.72
16/478	2585	1	0	0	0	0	0	1	0	1	0	0.32	-0.72
16/242W	3350	0	0	0	0	0	0	0	2	0	0	0.16	-0.79
10/23S	2370	0	0	0	0	1	0	0	0	0	1	0.23	-0.83
2/248	1670	1	0	0	0	0	0	0	0	1	0	0.33	-0.87
59/216	1260	0	0	0	0	1	0	0	0	1	0	0.43	-0.90
6/375	1070	1	0	0	0	1	0	0	0	0	0	0.51	-0.91
6/636WAB	760	0	0	0	0	0	1	0	0	1	0	0.72	-0.91
83/255	972	1	0	0	1	0	0	0	0	0	0	0.56	-0.91
16/242E	2840	0	0	0	0	0	0	0	0	0	1	0.10	-0.91

Average Collision Rate for Analysed Intersections =	0.43
Intersections Presented	30
Total Intersections Analysed	53
No. of Intersections This Classification	249
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Secondary Arterial - Urban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=9.925 Conf=99.5%
2/22/250	4020	n/a	1	0	2	0	0	1	1	3	1	0.68	-1.57
6/325N	3170	0	0	0	0	0	0	0	2	0	0	0.17	-2.20

Average Collision Rate for Analysed Intersections = 0.43

Intersections Presented	2
Total Intersections Analysed	2
No. of Intersections This Classification	2

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Collector -Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.576 Conf=99.5%
8/231	3250	5	5	7	1	0	3	5	2	4	5	3.12	2.15
83/366	910	0	1	0	1	1	0	0	3	1	0	2.11	0.60
8/229	2740	1	0	3	2	0	0	3	0	0	1	1.00	-0.02
10/24/262	3640	3	0	0	0	2	2	0	0	1	2	0.75	-0.18
6/518	2620	1	1	1	0	3	1	0	0	0	1	0.84	-0.20
12/302	1220	1	0	1	0	1	1	0	0	1	0	1.12	-0.22
2/332	2020	2	1	0	0	0	1	0	0	0	2	0.81	-0.31
3/305	2270	0	0	3	0	0	0	1	1	1	0	0.72	-0.36
59/629STM	2050	1	0	0	0	0	0	0	3	0	1	0.67	-0.45
391/633THO	2200	0	2	0	0	0	0	1	1	0	1	0.62	-0.47
6/239	1420	0	0	0	0	1	0	0	0	2	1	0.77	-0.50
59/205N	2540	1	1	1	1	0	1	0	0	0	0	0.54	-0.50
2/627GLE	1560	1	0	1	2	0	0	0	0	0	0	0.70	-0.53
59/403	1853	0	0	0	0	0	0	0	2	2	0	0.59	-0.57
16/250/651	1860	0	2	0	0	0	1	0	0	0	1	0.59	-0.57
8/519	1960	2	0	0	1	1	0	0	0	0	0	0.56	-0.58
4/508	2310	0	0	1	1	0	1	0	1	0	0	0.47	-0.60
67/322	2540	0	0	0	0	1	2	1	0	0	0	0.43	-0.61
10/266	1770	0	1	0	0	0	0	2	0	0	0	0.46	-0.71
16/651NEW	1970	0	3	0	0	0	0	0	0	0	0	0.42	-0.72
5/274E	2740	0	0	0	0	0	1	1	0	0	1	0.30	-0.72
16/478	2585	1	0	0	0	0	0	1	0	1	0	0.32	-0.72
16/242W	3350	0	0	0	0	0	0	0	2	0	0	0.16	-0.79
10/23S	2370	0	0	0	0	1	0	0	0	0	1	0.23	-0.83
2/248	1670	1	0	0	0	0	0	0	0	1	0	0.33	-0.87
59/216	1260	0	0	0	0	1	0	0	0	1	0	0.43	-0.90
6/375	1070	1	0	0	0	1	0	0	0	0	0	0.51	-0.91
6/636WAB	760	0	0	0	0	0	1	0	0	1	0	0.72	-0.91
83/255	972	1	0	0	1	0	0	0	0	0	0	0.56	-0.91
16/242E	2840	0	0	0	0	0	0	0	0	0	1	0.10	-0.91

Average Collision Rate for Analysed Intersections = 0.43

Intersections Presented	30
Total Intersections Analysed	53
No. of Intersections This Classification	249

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Collector - Suburban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=3.355 Conf=99.5%
6/237/627	2285	2	1	1	1	0	0	1	0	0	0	0.72	-0.04
16/34/675E	3875	n/a	0	2	0	0	0	2	0	0	1	0.39	-0.25
5/649SNEE	9580	n/a	0	0	0	0	2	0	0	0	4	0.19	-0.28
10/624FOR	3350	1	0	0	0	0	0	0	0	0	0	0.08	-0.57
10/623SERI	2080	n/a	0	0	0	0	0	0	1	0	0	0.15	-0.68
16/675WGLA	3340	n/a	0	0	0	0	0	0	0	0	0	0.00	-0.68
6/670ETRE	2115	n/a	0	0	0	0	0	0	0	0	0	0.00	-0.82
2/660STC	2065	n/a	0	0	0	0	0	0	0	0	0	0.00	-0.83

Average Collision Rate for Analysed Intersections = 0.19

Intersections Presented	8
Total Intersections Analysed	8
No. of Intersections This Classification	8

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Secondary Arterial - Secondary Arterial - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.878 Conf=99.5%
11/304	5480	0	4	1	1	4	1	2	0	3	2	0.90	-0.14
12/317	1300	0	0	1	0	1	1	1	1	1	0	1.26	-0.36
11/211	1810	2	2	0	0	0	1	0	1	0	1	1.06	-0.38
11/214	1860	1	1	0	1	0	0	1	1	0	0	0.74	-0.69
17/233	1880	1	0	1	0	1	2	0	0	0	0	0.73	-0.70
17/68	960	0	0	0	0	2	0	1	0	0	0	0.86	-0.96
7/68	2420	0	0	0	1	0	1	0	0	0	1	0.34	-0.97
3/5	1560	0	0	0	0	0	0	1	0	1	1	0.53	-0.99
9/17	3050	0	0	0	0	0	0	1	0	0	1	0.18	-1.04
3/34N	1160	0	0	0	0	0	0	1	0	0	1	0.47	-1.22
50/278	572	1	0	0	1	0	0	0	0	0	0	0.96	-1.29
3/18N	1677	0	0	0	0	0	1	0	0	0	0	0.16	-1.32
3/31/240	1512	0	0	0	0	0	0	0	1	0	0	0.18	-1.36
25/250W	1180	0	1	0	0	0	0	0	0	0	0	0.23	-1.45
3/21N	880	0	0	0	1	0	0	0	0	0	0	0.31	-1.57
227/240E	700	0	0	0	0	0	0	1	0	0	0	0.39	-1.67
3/21S	580	1	0	0	0	0	0	0	0	0	0	0.47	-1.76
200/201W	950	0	0	0	0	0	0	0	0	0	0	0.00	-1.83

Average Collision Rate for Analysed Intersections =	0.54
Intersections Presented	18
Total Intersections Analysed	18
No. of Intersections This Classification	39

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Secondary Arterial - Secondary Arterial - Urban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=63.657 Conf=99.5%
11/15	1185	n/a	0	1	0	0	1	2	1	0	2	1.80	-43.39

Average Collision Rate for Analysed Intersections =	1.80
Intersections Presented	1
Total Intersections Analysed	1
No. of Intersections This Classification	1

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Primary Arterial - Collector - Suburban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=3.355 Conf=99.5%
6/237/627	2285	2	1	1	1	0	0	1	0	0	0	0.72	-0.04
16/34/675E	3875	n/a	0	2	0	0	0	2	0	0	1	0.39	-0.25
5/649SNEE	9580	n/a	0	0	0	0	2	0	0	0	4	0.19	-0.28
10/624FOR	3350	1	0	0	0	0	0	0	0	0	0	0.08	-0.57
10/623SERI	2080	n/a	0	0	0	0	0	0	1	0	0	0.15	-0.68
16/675WGLA	3340	n/a	0	0	0	0	0	0	0	0	0	0.00	-0.68
6/670ETRE	2115	n/a	0	0	0	0	0	0	0	0	0	0.00	-0.82
2/660STC	2065	n/a	0	0	0	0	0	0	0	0	0	0.00	-0.83

Average Collision Rate for Analysed Intersections = 0.19

Intersections Presented	8
Total Intersections Analysed	8
No. of Intersections This Classification	8

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Secondary Arterial - Secondary Arterial - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.878 Conf=99.5%
11/304	5480	0	4	1	1	4	1	2	0	3	2	0.90	-0.14
12/317	1300	0	0	1	0	1	1	1	1	1	0	1.26	-0.36
11/211	1810	2	2	0	0	0	1	0	1	0	1	1.06	-0.38
11/214	1860	1	1	0	1	0	0	1	1	0	0	0.74	-0.69
17/233	1880	1	0	1	0	1	2	0	0	0	0	0.73	-0.70
17/68	960	0	0	0	0	2	0	1	0	0	0	0.86	-0.96
7/68	2420	0	0	0	1	0	1	0	0	0	1	0.34	-0.97
3/5	1560	0	0	0	0	0	0	1	0	1	1	0.53	-0.99
9/17	3050	0	0	0	0	0	0	1	0	0	1	0.18	-1.04
3/34N	1160	0	0	0	0	0	0	1	0	0	1	0.47	-1.22
50/278	572	1	0	0	1	0	0	0	0	0	0	0.96	-1.29
3/18N	1677	0	0	0	0	0	1	0	0	0	0	0.16	-1.32
3/31/240	1512	0	0	0	0	0	0	0	1	0	0	0.18	-1.36
25/250W	1180	0	1	0	0	0	0	0	0	0	0	0.23	-1.45
3/21N	880	0	0	0	1	0	0	0	0	0	0	0.31	-1.57
227/240E	700	0	0	0	0	0	0	1	0	0	0	0.39	-1.67
3/21S	580	1	0	0	0	0	0	0	0	0	0	0.47	-1.76
200/201W	950	0	0	0	0	0	0	0	0	0	0	0.00	-1.83

Average Collision Rate for Analysed Intersections = 0.54

Intersections Presented	18
Total Intersections Analysed	18
No. of Intersections This Classification	39

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Secondary Arterial - Secondary Arterial - Urban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=63.657 Conf=99.5%
11/15	1185	n/a	0	1	0	0	1	2	1	0	2	1.80	-43.39

Average Collision Rate for Analysed Intersections = 1.80

Intersections Presented	1
Total Intersections Analysed	1
No. of Intersections This Classification	1

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Secondary Arterial - Collector - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.576 Conf=99.5%
206/213	5560	2	4	6	2	2	5	5	1	2	2	1.53	0.63
5/23	880	0	1	1	0	0	0	0	1	1	1	1.56	-0.08
5/351	2000	1	0	1	1	0	1	0	2	1	0	0.96	-0.25
3/256/657	730	1	0	0	3	0	0	0	0	0	0	1.50	-0.26
240/331	2580	0	0	1	0	0	2	2	0	1	2	0.85	-0.27
7/229	1619	0	1	1	1	2	1	0	0	0	0	1.02	-0.28
340/457	2520	0	2	0	1	1	0	1	0	0	1	0.65	-0.47
68/326	2840	0	1	0	0	1	1	0	2	0	1	0.58	-0.50
23/200	1170	0	0	0	0	1	0	0	0	1	2	0.94	-0.53
45/264	1320	2	2	0	0	0	0	0	0	0	0	0.83	-0.57
30/201N	2595	0	0	0	1	0	0	0	1	2	1	0.53	-0.59
30/201S	3773	0	0	0	1	2	0	0	1	1	0	0.36	-0.64
256/257	784	0	0	1	1	0	0	0	0	0	1	1.05	-0.66
9/238	10030	1	0	0	0	0	0	1	1	0	1	0.11	-0.68
52/206	2761	0	0	0	0	0	0	1	2	0	1	0.40	-0.70
21/24	1390	1	0	0	0	1	0	0	0	1	0	0.59	-0.78
7/231S	1393	1	0	0	1	0	0	1	0	0	0	0.59	-0.78
52/210/302	1688	0	0	0	0	0	1	1	0	1	0	0.49	-0.79
16A/262	1720	0	0	0	0	0	1	1	0	0	1	0.48	-0.80
32/201N	2460	0	0	0	1	1	0	1	0	0	0	0.33	-0.80
30/421	2323	1	1	0	0	1	0	0	0	0	0	0.35	-0.80
13/331	2145	0	1	0	0	1	1	0	0	0	0	0.38	-0.80
3/434	5320	0	0	0	0	0	1	0	0	0	0	0.05	-0.86
9/225	2176	0	0	0	0	0	0	0	1	1	0	0.25	-0.93
16A/355	1898	1	0	0	0	0	1	0	0	0	0	0.29	-0.94
11/307	1697	0	0	1	0	0	1	0	0	0	0	0.32	-0.96
211/520	1650	0	0	0	0	1	0	1	0	0	0	0.33	-0.96
25/270	1560	0	0	0	0	0	1	1	0	0	0	0.35	-0.97
17/419	470	0	0	1	0	0	0	0	0	1	0	1.17	-0.97
23/34	1340	1	0	0	1	0	0	0	0	0	0	0.41	-0.98

Average Collision Rate for Analysed Intersections =	0.48

Intersections Presented	30
Total Intersections Analysed	52
No. of Intersections This Classification	209
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Secondary Arterial - Collector - Suburban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=9.925 Conf=99.5%
18/23E	1020	1	2	0	3	1	2	1	1	0	0	2.95	-5.20
9/229	2950	0	0	0	0	0	0	1	0	0	1	0.19	-5.22

Average Collision Rate for Analysed Intersections =	1.57
Intersections Presented	2
Total Intersections Analysed	2
No. of Intersections This Classification	24
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Secondary Arterial - Collector - Urban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=4.604 Conf=99.5%
50/261	1612	2	0	3	1	2	1	1	0	0	0	1.70	-0.65
3/432	12000	1	2	0	3	1	2	1	1	3	1	0.34	-0.94
3/638MOR	7940	n/a	1	3	2	1	1	0	0	1	2	0.42	-1.04
340/344WAW	1840	1	0	0	0	0	1	0	0	0	0	0.30	-1.94

Average Collision Rate for Analysed Intersections =	0.69
Intersections Presented	4
Total Intersections Analysed	4
No. of Intersections This Classification	39
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Secondary Arterial - Collector - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.576 Conf=99.5%
206/213	5560	2	4	6	2	2	5	5	1	2	2	1.53	0.63
5/23	880	0	1	1	0	0	0	0	1	1	1	1.56	-0.08
5/351	2000	1	0	1	1	0	1	0	2	1	0	0.96	-0.25
3/256/657	730	1	0	0	3	0	0	0	0	0	0	1.50	-0.26
240/331	2580	0	0	1	0	0	2	2	0	1	2	0.85	-0.27
7/229	1619	0	1	1	1	2	1	0	0	0	0	1.02	-0.28
340/457	2520	0	2	0	1	1	0	1	0	0	1	0.65	-0.47
68/326	2840	0	1	0	0	1	1	0	2	0	1	0.58	-0.50
23/200	1170	0	0	0	0	1	0	0	0	1	2	0.94	-0.53
45/264	1320	2	2	0	0	0	0	0	0	0	0	0.83	-0.57
30/201N	2595	0	0	0	1	0	0	0	1	2	1	0.53	-0.59
30/201S	3773	0	0	0	1	2	0	0	1	1	0	0.36	-0.64
256/257	784	0	0	1	1	0	0	0	0	0	1	1.05	-0.66
9/238	10030	1	0	0	0	0	0	1	1	0	1	0.11	-0.68
52/206	2761	0	0	0	0	0	0	1	2	0	1	0.40	-0.70
21/24	1390	1	0	0	0	1	0	0	0	1	0	0.59	-0.78
7/231S	1393	1	0	0	1	0	0	1	0	0	0	0.59	-0.78
52/210/302	1688	0	0	0	0	0	1	1	0	1	0	0.49	-0.79
16A/262	1720	0	0	0	0	0	1	1	0	0	1	0.48	-0.80
32/201N	2460	0	0	0	1	1	0	1	0	0	0	0.33	-0.80
30/421	2323	1	1	0	0	1	0	0	0	0	0	0.35	-0.80
13/331	2145	0	1	0	0	1	1	0	0	0	0	0.38	-0.80
3/434	5320	0	0	0	0	0	1	0	0	0	0	0.05	-0.86
9/225	2176	0	0	0	0	0	0	0	1	1	0	0.25	-0.93
16A/355	1898	1	0	0	0	0	1	0	0	0	0	0.29	-0.94
11/307	1697	0	0	1	0	0	1	0	0	0	0	0.32	-0.96
211/520	1650	0	0	0	0	1	0	1	0	0	0	0.33	-0.96
25/270	1560	0	0	0	0	0	1	1	0	0	0	0.35	-0.97
17/419	470	0	0	1	0	0	0	0	0	1	0	1.17	-0.97
23/34	1340	1	0	0	1	0	0	0	0	0	0	0.41	-0.98

Average Collision Rate for Analysed Intersections = 0.48

Intersections Presented	30
Total Intersections Analysed	52
No. of Intersections This Classification	209

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Secondary Arterial - Collector - Suburban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=9.925 Conf=99.5%
18/23E	1020	1	2	0	3	1	2	1	1	0	0	2.95	-5.20
9/229	2950	0	0	0	0	0	0	1	0	0	1	0.19	-5.22

Average Collision Rate for Analysed Intersections =	1.57
Intersections Presented	2
Total Intersections Analysed	2
No. of Intersections This Classification	24
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Secondary Arterial - Collector - Urban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=4.604 Conf=99.5%
50/261	1612	2	0	3	1	2	1	1	0	0	0	1.70	-0.65
3/432	12000	1	2	0	3	1	2	1	1	3	1	0.34	-0.94
3/638MOR	7940	n/a	1	3	2	1	1	0	0	1	2	0.42	-1.04
340/344WAW	1840	1	0	0	0	0	1	0	0	0	0	0.30	-1.94

Average Collision Rate for Analysed Intersections =	0.69
Intersections Presented	4
Total Intersections Analysed	4
No. of Intersections This Classification	39
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Collector - Collector - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.576 Conf=99.5%
206/311	1960	2	1	3	1	1	0	2	3	0	2	2.10	0.77
206/207	2350	4	0	1	0	3	1	0	2	1	2	1.63	0.38
215/601BEA	4140	4	5	1	0	1	3	1	1	4	0	1.32	0.26
200/305	1400	0	0	1	1	1	2	0	0	1	1	1.37	-0.11
207/213	5290	1	1	0	1	1	2	3	1	4	1	0.78	-0.22
205/216S	2930	1	0	1	1	1	1	1	2	0	0	0.75	-0.42
200/311	1730	0	0	0	1	1	0	0	1	3	0	0.95	-0.43
205/216N	1810	1	3	0	0	1	0	0	0	0	0	0.76	-0.60
314/315	180	0	0	0	2	0	0	0	0	0	0	3.04	-0.60
9/519	1960	1	0	0	1	0	1	0	0	0	1	0.56	-0.76
241/334E	2590	0	0	1	0	0	1	0	0	0	0	0.21	-1.00
200/210	1870	0	0	0	1	0	0	0	0	1	0	0.29	-1.05
315/520E	1770	0	0	1	0	0	1	0	0	0	0	0.31	-1.06
200/217N	370	0	0	0	1	0	0	0	0	0	1	1.48	-1.06
205/246	410	0	0	1	0	0	0	0	0	1	0	1.34	-1.09
200/217S	410	0	1	0	0	0	1	0	0	0	0	1.34	-1.09
322/323W	430	1	1	0	0	0	0	0	0	0	0	1.27	-1.10
205/330	910	0	0	1	0	0	0	0	0	0	1	0.60	-1.13
212/213	2130	0	0	0	1	0	0	0	0	0	0	0.13	-1.16
313/433	1720	0	0	0	0	0	0	0	0	0	0	0.00	-1.38
24/250	1100	0	0	0	0	0	0	0	0	0	0	0.00	-1.61
242/350	410	0	0	0	0	0	0	0	1	0	0	0.67	-1.76
250/355W	370	0	0	0	0	0	0	0	1	0	0	0.74	-1.81
307/309	340	0	0	0	1	0	0	0	0	0	0	0.81	-1.84
200/246	310	0	1	0	0	0	0	0	0	0	0	0.88	-1.88
220/321S	570	0	0	0	0	0	0	0	0	0	0	0.00	-2.10
41/42	480	0	0	0	0	0	0	0	0	0	0	0.00	-2.26
260/265W	460	0	0	0	0	0	0	0	0	0	0	0.00	-2.30
251/254	380	0	0	0	0	0	0	0	0	0	0	0.00	-2.51
250/355E	360	0	0	0	0	0	0	0	0	0	0	0.00	-2.58

Average Collision Rate for Analysed Intersections = 0.54

Intersections Presented	30
Total Intersections Analysed	43
No. of Intersections This Classification	298

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Collector - Collector - Suburban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=9.925 Conf=99.5%
9/222/231	5380	1	0	0	1	1	3	3	1	1	0	0.56	-2.22
321/322	550	1	1	0	0	0	0	0	0	0	0	1.00	-6.21

Average Collision Rate for Analysed Intersections = 0.78

Intersections Presented	2
Total Intersections Analysed	2
No. of Intersections This Classification	21

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Collector - Collector - Urban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=3.707 Conf=99.5%
241/334W	3250	0	0	2	1	0	2	0	2	1	0	0.67	-0.88
9/616CGIM	5900	0	0	2	2	0	1	0	1	2	1	0.42	-0.90
244/245N	940	0	2	0	0	0	0	0	0	2	1	1.46	-0.95
206/210S	1780	0	0	0	2	1	0	1	0	0	1	0.77	-1.13
206/210N	1430	0	0	0	1	1	0	1	0	0	0	0.57	-1.48
222/2329	1190	0	0	0	0	0	0	0	0	0	0	0.00	-2.20

Average Collision Rate for Analysed Intersections = 0.65

Intersections Presented	6
Total Intersections Analysed	6
No. of Intersections This Classification	84

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Collector - Collector - Rural

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.576 Conf=99.5%
206/311	1960	2	1	3	1	1	0	2	3	0	2	2.10	0.77
206/207	2350	4	0	1	0	3	1	0	2	1	2	1.63	0.38
215/601BEA	4140	4	5	1	0	1	3	1	1	4	0	1.32	0.26
200/305	1400	0	0	1	1	1	2	0	0	1	1	1.37	-0.11
207/213	5290	1	1	0	1	1	2	3	1	4	1	0.78	-0.22
205/216S	2930	1	0	1	1	1	1	1	2	0	0	0.75	-0.42
200/311	1730	0	0	0	1	1	0	0	1	3	0	0.95	-0.43
205/216N	1810	1	3	0	0	1	0	0	0	0	0	0.76	-0.60
314/315	180	0	0	0	2	0	0	0	0	0	0	3.04	-0.60
9/519	1960	1	0	0	1	0	1	0	0	0	1	0.56	-0.76
241/334E	2590	0	0	1	0	0	1	0	0	0	0	0.21	-1.00
200/210	1870	0	0	0	1	0	0	0	0	1	0	0.29	-1.05
315/520E	1770	0	0	1	0	0	1	0	0	0	0	0.31	-1.06
200/217N	370	0	0	0	1	0	0	0	0	0	1	1.48	-1.06
205/246	410	0	0	1	0	0	0	0	0	1	0	1.34	-1.09
200/217S	410	0	1	0	0	0	1	0	0	0	0	1.34	-1.09
322/323W	430	1	1	0	0	0	0	0	0	0	0	1.27	-1.10
205/330	910	0	0	1	0	0	0	0	0	0	1	0.60	-1.13
212/213	2130	0	0	0	1	0	0	0	0	0	0	0.13	-1.16
313/433	1720	0	0	0	0	0	0	0	0	0	0	0.00	-1.38
24/250	1100	0	0	0	0	0	0	0	0	0	0	0.00	-1.61
242/350	410	0	0	0	0	0	0	0	1	0	0	0.67	-1.76
250/355W	370	0	0	0	0	0	0	0	1	0	0	0.74	-1.81
307/309	340	0	0	0	1	0	0	0	0	0	0	0.81	-1.84
200/246	310	0	1	0	0	0	0	0	0	0	0	0.88	-1.88
220/321S	570	0	0	0	0	0	0	0	0	0	0	0.00	-2.10
41/42	480	0	0	0	0	0	0	0	0	0	0	0.00	-2.26
260/265W	460	0	0	0	0	0	0	0	0	0	0	0.00	-2.30
251/254	380	0	0	0	0	0	0	0	0	0	0	0.00	-2.51
250/355E	360	0	0	0	0	0	0	0	0	0	0	0.00	-2.58

Average Collision Rate for Analysed Intersections = 0.54

Intersections Presented	30
Total Intersections Analysed	43
No. of Intersections This Classification	298

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Collector - Collector - Suburban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=9.925 Conf=99.5%
9/222/231	5380	1	0	0	1	1	3	3	1	1	0	0.56	-2.22
321/322	550	1	1	0	0	0	0	0	0	0	0	1.00	-6.21

Average Collision Rate for Analysed Intersections = 0.78

Intersections Presented	2
Total Intersections Analysed	2
No. of Intersections This Classification	21

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Collector - Collector - Urban

Intersection I.D.	Volume Entering	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=3.707 Conf=99.5%
241/234W	3250	0	0	2	1	0	2	0	2	1	0	0.67	-0.88
9/616CGIM	5900	0	0	2	2	0	1	0	1	2	1	0.42	-0.90
244/245N	940	0	2	0	0	0	0	0	0	2	1	1.46	-0.95
206/210S	1780	0	0	0	2	1	0	1	0	0	1	0.77	-1.13
206/210N	1430	0	0	0	1	1	0	1	0	0	0	0.57	-1.48
222/2329	1190	0	0	0	0	0	0	0	0	0	0	0.00	-2.20

Average Collision Rate for Analysed Intersections = 0.65

Intersections Presented	6
Total Intersections Analysed	6
No. of Intersections This Classification	84

Data Sorted at 99.5% Confidence Level

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

Intersection Classification: Signalized Intersection - Suburban[1]

Intersection I.D.	Volume Entering	Date Signalized	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.576 Conf=99.5%
12/PARKSTE	20082	6/90	n/a	n/a	**17**	9	15	16	14	15	9	18	1.93	0.82
1/16/305	10275	9/79	**6**	6	2	4	10	7	9	7	4	5	1.60	0.41
15/101	8060	11/96	0	2	0	0	2	1	3	**3**	10	4	1.93	0.29
3/100	14175	5/73	**5**	6	8	4	8	6	10	9	2	7	1.26	0.13
221/636WPG	14210	10/74	**9**	12	7	12	7	5	4	4	4	1	1.25	0.12
9/44	12235	6/74	**12**	10	7	0	4	3	5	5	4	2	1.16	0.01
1/1AE/10E	12510	9/64	n/a	n/a	**4**	6	4	4	6	5	3	0	0.88	-0.32
100/STMARY	21845	12/73	**12**	1	3	1	1	6	6	10	10	5	0.69	-0.37
100/WAVER	14558	9/91	5	2	**4**	9	2	4	2	9	2	3	0.75	-0.41
1/10W	9290	5/91	n/a	n/a	**1**	4	6	3	3	2	2	1	0.81	-0.45
9/410	10115	9/91	6	1	**3**	0	1	5	4	5	5	5	0.78	-0.46
1/207W	18958	9/93	4	7	9	8	**8**	6	3	6	1	5	0.70	-0.47
14/32/428	8400	6/95	1	2	1	1	4	**2**	3	4	1	4	0.91	-0.51
10/459	18753	2/90	n/a	n/a	n/a	n/a	**1**	5	6	4	3	5	0.58	-0.59
101/425	11830	8/78	**3**	2	3	2	2	1	4	5	1	0	0.53	-0.63
59/101N	24454	6/97	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**9**	1	6	0.60	-0.67
9/RIVERWPG	14448	9/83	**0**	1	3	4	4	3	1	4	2	2	0.46	-0.67
1A/457	17605	5/90	**8**	1	0	4	2	3	0	1	3	2	0.37	-0.72
100/STANNE	15890	6/88	**5**	2	2	2	3	1	3	2	1	1	0.38	-0.73
1/334E	15775	11/95	1	3	0	2	2	1	**2**	3	3	4	0.52	-0.78
7/67	10155	2/97	5	2	2	0	2	6	9	**2**	4	2	0.72	-0.82
59/101S	32546	6/97	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**6**	1	6	0.36	-0.84
4/9/9AN	7255	5/95	2	2	4	8	5	**2**	3	1	2	0	0.60	-0.87
101/ASSDWN[3]	12890	3/80	n/a	n/a	**1**	2	1	1	2	2	0	1	0.27	-0.92
9/GRASSWPG	10417	7/76	n/a	n/a	n/a	n/a	**2**	2	2	2	0	0	0.35	-0.95
1/RACEWAY[2]	15350	6/78	**1**	0	0	0	2	0	0	0	1	2	0.11	-1.01
9/ALLENWPG	9762	7/76	n/a	**0**	1	0	2	1	0	1	0	0	0.16	-1.07
1/ODEON[3]	16575	10/75	**1**	0	0	0	0	0	1	0	0	0	0.03	-1.07
1/BLUMBERG[3]	11584	6/99	n/a	n/a	n/a	n/a	n/a	4	3	1	1	**3**	1.42	-1.20
9/MINNIWPG	10106	3/77	n/a	**1**	0	0	0	1	1	0	0	0	0.09	-1.12

Average Collision Rate for Analysed Intersections =	0.80

Intersections Presented	30
Total Intersections Analysed	34
No. of Intersections This Classification	36[4]
Data Sorted at 99.5% Confidence Level	
Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.	

---

[1] Analysis is based only on year (in bold) and subsequent years that an intersection has been signalized; other years are for information only.

[2] In the spring of 1999 the lights at PTH 1 and Assiniboia Downs were moved west to Raceway Road.

[3] The signals at 1/Blumberg, 1/Odeon & 101/Assdwn are on only during events; otherwise, they flash amber for through traffic.

[4] 10/110 was added to this classification in December of 1999 but no data will be available until the year 2000.

Intersection Classification: Signalized Intersection - Urban[1]

Intersection I.D.	Volume Entering	Date Signalized	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve	k=1.282 Conf=90%	k=1.645 Conf=95%	k=2.576 Conf=99.5%
12/52	14176	04/75	**20**	16	12	15	19	18	12	6	16	8	1.86	1.06	1.02	0.94
1A/10	44534	03/78	n/a	n/a	**24**	19	29	31	28	22	29	27	1.61	0.84	0.81	0.74
52/REIMSTE	14176	02/74	n/a	n/a	**7**	6	2	13	12	6	11	10	1.62	0.77	0.72	0.60
5A/20AS	15324	06/85	n/a	**5**	10	4	8	5	8	7	7	14	1.35	0.52	0.47	0.37
673/MTNWIN	9394	05/89	n/a	n/a	**6**	11	2	5	5	4	2	5	1.46	0.56	0.51	0.36
10/610BRN	38414	05/80	n/a	n/a	**15**	4	19	20	18	17	12	23	1.14	0.36	0.33	0.26
12/LOEWSTE	21400	08/88	n/a	n/a	**11**	9	8	9	13	3	8	13	1.18	0.37	0.33	0.23
1A/610BRN	28098	05/80	n/a	n/a	**15**	7	11	12	11	8	13	16	1.13	0.34	0.30	0.22
10/PRINBRN	26204	12/68	**14**	10	6	14	7	6	13	10	15	8	1.08	0.29	0.26	0.18
1A/34BRN	22020	02/78	**8**	12	7	4	9	10	5	11	12	10	1.09	0.30	0.26	0.18
10/PARKBRN	32972	11/78	**14**	15	7	15	12	10	7	14	9	22	1.04	0.26	0.24	0.17
32/ROBWIN	11049	07/90	n/a	n/a	**6**	5	7	5	5	3	2	4	1.15	0.27	0.22	0.08
10/QUEEBRN	25287	08/89	n/a	n/a	**7**	7	8	9	10	12	6	12	0.96	0.16	0.12	0.03
1A/6BRN	17364	08/80	**7**	7	8	2	4	4	9	9	7	3	0.95	0.13	0.09	0.00
1A/13BRN	22746	07/81	n/a	n/a	**9**	9	4	8	8	11	8	5	0.93	0.12	0.08	-0.01
10/283/285	12088	10/75	n/a	n/a	**2**	7	7	3	6	4	4	3	1.02	0.15	0.10	-0.03
1A/26BRN	26074	02/76	n/a	n/a	**9**	10	4	12	5	12	11	5	0.89	0.09	0.06	-0.03
5A/MEMDAU	12937	07/85	**14**	6	1	4	1	3	1	0	6	6	0.89	0.05	0.01	-0.11
10A/83SR	11563	08/94	n/a	n/a	3	3	5	**3**	4	1	6	7	0.95	0.08	0.02	-0.11
10/ROSSBRN	23123	05/78	n/a	n/a	**6**	6	9	8	5	7	6	6	0.78	-0.03	-0.06	-0.16
9A/204	18726	08/75	**4**	7	6	7	1	5	6	6	3	4	0.72	-0.09	-0.13	-0.22
1A/24WPLP	17141	01/83	**6**	0	5	6	1	5	6	4	7	5	0.72	-0.10	-0.14	-0.23
52/FRIESTE	13772	02/78	n/a	n/a	**4**	7	4	3	2	2	2	7	0.77	-0.08	-0.13	-0.25
9A/STRASEL	17765	11/75	**7**	5	4	6	3	6	10	3	1	2	0.69	-0.12	-0.16	-0.25
1A/PRINBRN	16435	04/77	**5**	7	8	3	2	5	2	1	1	8	0.70	-0.12	-0.16	-0.26
5A/20AN	12119	06/85	n/a	**2**	7	3	4	5	1	3	3	2	0.75	-0.10	-0.15	-0.27
10A/9SR	13619	01/87	n/a	n/a	**3**	1	8	6	2	5	2	2	0.73	-0.13	-0.17	-0.29
1A/240W	19589	03/87	n/a	n/a	**2**	5	2	6	4	4	10	5	0.66	-0.16	-0.20	-0.30
1A/12WPLP	19567	12/73	**3**	7	2	7	3	0	4	2	4	13	0.63	-0.18	-0.21	-0.30
9A/320	18239	10/77	n/a	n/a	**4**	2	6	5	3	7	3	5	0.66	-0.17	-0.21	-0.32

Average Collision Rate for Analysed Intersections =	0.68

Intersections Presented	30
Total Intersections Analysed	75
No. of Intersections This Classification	78
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

---

[1] Analysis is based only on year (in bold) and subsequent years that an intersection has been signalized; other years are for information only.

Intersection Classification: Signalized Intersection - Suburban[1]

Intersection I.D.	Volume Entering	Date Signalized	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve)	k=2.576 Conf=99.5%
12/PARKSTE	20082	6/90	n/a	n/a	**17**	9	15	16	14	15	9	18	1.93	0.82
1/16/305	10275	9/79	**6**	6	2	4	10	7	9	7	4	5	1.60	0.41
15/101	8060	11/96	0	2	0	0	2	1	3	**3**	10	4	1.93	0.29
3/100	14175	5/73	**5**	6	8	4	8	6	10	9	2	7	1.26	0.13
221/636WPG	14210	10/74	**9**	12	7	12	7	5	4	4	4	1	1.25	0.12
9/44	12235	6/74	**12**	10	7	0	4	3	5	5	4	2	1.16	0.01
1/1AE/10E	12510	9/64	n/a	n/a	**4**	6	4	4	6	5	3	0	0.88	-0.32
100/STMARY	21845	12/73	**12**	1	3	1	1	6	6	10	10	5	0.69	-0.37
100/WAVER	14558	9/91	5	2	**4**	9	2	4	2	9	2	3	0.75	-0.41
1/10W	9290	5/91	n/a	n/a	**1**	4	6	3	3	2	2	1	0.81	-0.45
9/410	10115	9/91	6	1	**3**	0	1	5	4	5	5	5	0.78	-0.46
1/207W	18958	9/93	4	7	9	8	**8**	6	3	6	1	5	0.70	-0.47
14/32/428	8400	6/95	1	2	1	1	4	**2**	3	4	1	4	0.91	-0.51
10/459	18753	2/90	n/a	n/a	n/a	n/a	**1**	5	6	4	3	5	0.58	-0.59
101/425	11830	8/78	**3**	2	3	2	2	1	4	5	1	0	0.53	-0.63
59/101N	24454	6/97	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**9**	1	6	0.60	-0.67
9/RIVERWPG	14448	9/83	**0**	1	3	4	4	3	1	4	2	2	0.46	-0.67
1A/457	17605	5/90	**8**	1	0	4	2	3	0	1	3	2	0.37	-0.72
100/STANNE	15890	6/88	**5**	2	2	2	3	1	3	2	1	1	0.38	-0.73
1/334E	15775	11/95	1	3	0	2	2	1	**2**	3	3	4	0.52	-0.78
7/67	10155	2/97	5	2	2	0	2	6	9	**2**	4	2	0.72	-0.82
59/101S	32546	6/97	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**6**	1	6	0.36	-0.84
4/9/9AN	7255	5/95	2	2	4	8	5	**2**	3	1	2	0	0.60	-0.87
101/ASSDWN[3]	12890	3/80	n/a	n/a	**1**	2	1	1	2	2	0	1	0.27	-0.92
9/GRASSWPG	10417	7/76	n/a	n/a	n/a	n/a	**2**	2	2	2	0	0	0.35	-0.95
1/RACEWAY[2]	15350	6/78	**1**	0	0	0	2	0	0	0	1	2	0.11	-1.01
9/ALLENWPG	9762	7/76	n/a	**0**	1	0	2	1	0	1	0	0	0.16	-1.07
1/ODEON[3]	16575	10/75	**1**	0	0	0	0	0	1	0	0	0	0.03	-1.07
1/BLUMBERG[3]	11584	6/99	n/a	n/a	n/a	n/a	n/a	4	3	1	1	**3**	1.42	-1.20
9/MINNIWPG	10106	3/77	n/a	**1**	0	0	0	1	1	0	0	0	0.09	-1.12

Average Collision Rate for Analysed Intersections =	0.80

Intersections Presented	30
Total Intersections Analysed	34
No. of Intersections This Classification	36[4]
Data Sorted at 99.5% Confidence Level	
Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.	

---

[1] Analysis is based only on year (in bold) and subsequent years that an intersection has been signalized; other years are for information only.

[2] In the spring of 1999 the lights at PTH 1 and Assiniboia Downs were moved west to Raceway Road.

[3] The signals at 1/Blumberg, 1/Odeon & 101/Assdwn are on only during events; otherwise, they flash amber for through traffic.

[4] 10/110 was added to this classification in December of 1999 but no data will be available until the year 2000.

Intersection Classification: Signalized Intersection - Urban[1]

Intersection I.D.	Volume Entering	Date Signalized	90	91	92	93	94	95	96	97	98	99	Collision Rate (coll/mve	k=1.282 Conf=90%	k=1.645 Conf=95%	k=2.576 Conf=99.5%
12/52	14176	04/75	**20**	16	12	15	19	18	12	6	16	8	1.86	1.06	1.02	0.94
1A/10	44534	03/78	n/a	n/a	**24**	19	29	31	28	22	29	27	1.61	0.84	0.81	0.74
52/REIMSTE	14176	02/74	n/a	n/a	**7**	6	2	13	12	6	11	10	1.62	0.77	0.72	0.60
5A/20AS	15324	06/85	n/a	**5**	10	4	8	5	8	7	7	14	1.35	0.52	0.47	0.37
673/MTNWIN	9394	05/89	n/a	n/a	**6**	11	2	5	5	4	2	5	1.46	0.56	0.51	0.36
10/610BRN	38414	05/80	n/a	n/a	**15**	4	19	20	18	17	12	23	1.14	0.36	0.33	0.26
12/LOEWSTE	21400	08/88	n/a	n/a	**11**	9	8	9	13	3	8	13	1.18	0.37	0.33	0.23
1A/610BRN	28098	05/80	n/a	n/a	**15**	7	11	12	11	8	13	16	1.13	0.34	0.30	0.22
10/PRINBRN	26204	12/68	**14**	10	6	14	7	6	13	10	15	8	1.08	0.29	0.26	0.18
1A/34BRN	22020	02/78	**8**	12	7	4	9	10	5	11	12	10	1.09	0.30	0.26	0.18
10/PARKBRN	32972	11/78	**14**	15	7	15	12	10	7	14	9	22	1.04	0.26	0.24	0.17
32/ROBWIN	11049	07/90	n/a	n/a	**6**	5	7	5	5	3	2	4	1.15	0.27	0.22	0.08
10/QUEEBRN	25287	08/89	n/a	n/a	**7**	7	8	9	10	12	6	12	0.96	0.16	0.12	0.03
1A/6BRN	17364	08/80	**7**	7	8	2	4	4	9	9	7	3	0.95	0.13	0.09	0.00
1A/13BRN	22746	07/81	n/a	n/a	**9**	9	4	8	8	11	8	5	0.93	0.12	0.08	-0.01
10/283/285	12088	10/75	n/a	n/a	**2**	7	7	3	6	4	4	3	1.02	0.15	0.10	-0.03
1A/26BRN	26074	02/76	n/a	n/a	**9**	10	4	12	5	12	11	5	0.89	0.09	0.06	-0.03
5A/MEMDAU	12937	07/85	**14**	6	1	4	1	3	1	0	6	6	0.89	0.05	0.01	-0.11
10A/83SR	11563	08/94	n/a	n/a	3	3	5	**3**	4	1	6	7	0.95	0.08	0.02	-0.11
10/ROSSBRN	23123	05/78	n/a	n/a	**6**	6	9	8	5	7	6	6	0.78	-0.03	-0.06	-0.16
9A/204	18726	08/75	**4**	7	6	7	1	5	6	6	3	4	0.72	-0.09	-0.13	-0.22
1A/24WPLP	17141	01/83	**6**	0	5	6	1	5	6	4	7	5	0.72	-0.10	-0.14	-0.23
52/FRIESTE	13772	02/78	n/a	n/a	**4**	7	4	3	2	2	2	7	0.77	-0.08	-0.13	-0.25
9A/STRASEL	17765	11/75	**7**	5	4	6	3	6	10	3	1	2	0.69	-0.12	-0.16	-0.25
1A/PRINBRN	16435	04/77	**5**	7	8	3	2	5	2	1	1	8	0.70	-0.12	-0.16	-0.26
5A/20AN	12119	06/85	n/a	**2**	7	3	4	5	1	3	3	2	0.75	-0.10	-0.15	-0.27
10A/9SR	13619	01/87	n/a	n/a	**3**	1	8	6	2	5	2	2	0.73	-0.13	-0.17	-0.29
1A/240W	19589	03/87	n/a	n/a	**2**	5	2	6	4	4	10	5	0.66	-0.16	-0.20	-0.30
1A/12WPLP	19567	12/73	**3**	7	2	7	3	0	4	2	4	13	0.63	-0.18	-0.21	-0.30
9A/320	18239	10/77	n/a	n/a	**4**	2	6	5	3	7	3	5	0.66	-0.17	-0.21	-0.32

Average Collision Rate for Analysed Intersections =	0.68
Intersections Presented	30
Total Intersections Analysed	75
No. of Intersections This Classification	78
Data Sorted at 99.5% Confidence Level	

Whenever possible, the volume entering is the most recent traffic count taken from the annual *Traffic on Manitoba Highways* publication.

---

[1] Analysis is based only on year (in bold) and subsequent years that an intersection has been signalized; other years are for information only.

Glossary

Glossary

Ability Impaired by Alcohol	Driver had consumed a sufficient quantity of alcohol to impair their physical/mental condition.
Ability Impaired by Drugs	Driver had used a controlled substance and was legally impaired in the judgement of a law enforcement officer.
Accident	Refer to collision.
All-terrain Vehicle	An off-road vehicle which operates on three or more low pressure tires, has a seat designed to be straddled by the operator, and has handle bars for steering the vehicle.
Antique Vehicle	A car, truck or motorcycle that is more than thirty years old at the time of application for registration. A motor vehicle registered as an antique car, truck or motorcycle can be driven only when: a. taking it to be repaired or serviced; b. displaying it to the public in a parade or procession and driving it to or from such a parade or procession, c. driving it in an antique car, truck or motorcycle rally as authorized by the Registrar of Motor Vehicles.
Collision	A reportable motor vehicle collision is one that results in a fatality, injury and/or total property damage exceeding $1,000.00.
Coll/mve	Collision per million vehicles entering.
Commercial Truck	A truck (or trailer) used to transport the registered owner's (or lessee's) own business goods: a. beyond a radius of 20 kilometres of the City of Winnipeg, where the registered owner's business address is in the City of Winnipeg, b. beyond a radius of 30 kilometres of a city, town or village other than the City of Winnipeg, where the registered owner's address is not in the City of Winnipeg.
Contributing Factors	Those events or circumstances that directly contribute to a traffic collision: Driver Action: Used to determine if the actions performed immediately prior to the collision may have been a factor in causing the collision.

Contributing Factors con't	Those events or circumstances that directly contribute to a traffic collision: Human Condition: Used to determine if a driver's medical condition may have been a major factor in contributing to collision causation. Vehicle Condition: Used to determine if a vehicle has a mechanical defect that may have been a factor in collision causation. Environmental Condition: Used to determine if environmental factors are in some way responsible for the collision.
Dealer	A recognized person who in the course of his business buys, sells, exchanges, advertises, exhibits or offers for sale, or acts as a broker of, or commission agent in respect of new or used vehicles of a type required to be registered under *The Highway Traffic Act* and/or *The Taxicab Act*, and as such, is allowed to purchase for their own use dealer licence plates that can be affixed to a motor vehicle under their care.
Delivery Car	A passenger motor vehicle or a sedan delivery used, in either case, for delivery purposes, but does not include a public service vehicle or taxicab.
Driverless Vehicle/ Ran Out of Control	Includes improperly parked vehicles, vehicles set in motion by failure of parking brakes, vandalism, etc., without a driver in control. Includes cases where young children start and/or attempt to operate vehicles.
Farm Truck	A motor vehicle classified as a "truck" at time of registration and is owned by a person engaged in farming.
Fatal Collision	A motor vehicle collision which results in death to one or more individuals within 30 days of the collision.
Had Been Drinking/ Suspected Alcohol Use	Driver had consumed alcohol, but his/her physical condition was not legally impaired or tested for legal impairment.
Hydroplaning of tires	Refers to water on the roadway. The contact between the vehicle's tires and the roadway surface was eliminated.

Glossary

Injury Collision	A motor vehicle collision which results in non-fatal injury to one or more individuals.
Livery	A vehicle licenced under *The Highway Traffic Act* for the Transportation of persons for compensation and is licenced to operate in the Province according to terms issued by the Motor Transport Board.
Moped	A motor vehicle which: a. has 2 tandem wheels or 3 wheels, each of which is more than 250 millimetres in diameter, b. has a seat or saddle having a minimum unladen height of 650 millimetres, when measured from the ground level to the top of the forward most part of the saddle, c. is capable of being driven at all times by pedals only if so equipped, by motor only or by both pedals and motor, and d. the motor has a piston displacement of not more than 50 cubic centimetres, or is an electric motor neither of which is capable of enabling the moped to attain a speed greater than 50 km/h.
Motorcycle	A motor vehicle, other than a tractor which: a. is designed to travel on not more than three wheels in contact with the ground, and b. has a seat or saddle for the use of the rider sitting astride thereof and is capable of attaining a speed of 50 km/h or more, c. and includes a bicycle with a motor attached by which it is driven, a motor scooter.
Not Stated	Reporting document does not contain the necessary information for a particular category.
Off-Road Vehicle (ORV)	Included in this category are the following: snowmobiles, off-road vehicle motorcycles, all-terrain vehicles, amphibious vehicles, dune/sport buggy and 4 wheel drive vehicles operated off-road.
Passenger Vehicle	A motor vehicle classified by the manufacturer as a passenger car or which is designed, constructed or adapted for the principle purpose of transporting passengers and includes a delivery car, but does not include a motorcycle, moped or motor vehicle which is designed, constructed or adapted for the purpose of carrying goods or commodities.
Property Damage Collision	A motor vehicle collision in which damage to vehicle and/or property was $1,000.00 or more, and which did not result in death or injury.

Public Service Vehicle (PSV)	A motor vehicle or trailer operated by or on behalf of any person, for transportation for gain or compensation of persons or property upon a highway, and includes a semi-trailer truck; but does not include the passenger-carrying-motor vehicles of an electric, or steam railway or motor bus company operating on the streets of a city, or school buses, ambulances or hearses or motor vehicle operated for gain or compensation under *The Taxicab Act* or a municipal by-law in cities, towns, and villages.
Repairer	A person who maintains a garage for the purpose of rendering services therein upon motor vehicles and/or trailers, at a charge, price or consideration; or who owns and operates a fleet of five or more motor vehicles or trailers; or both, and maintains a facility for their repair, is permitted under *The Highway Traffic Act* to obtain "Repairer" licence plates to be used to transport motor vehicles for repair from place of origin to the repair facility and return, and the testing of the motor vehicle after the repair work has been completed.
Rural Collision	A collision occurring on the provincial highway system where the posted legal speed limit is 90 or 100 km/h.
Safety Equipment	Seatbelts, safety helmets and child restraints.
Snowmobile Collision	A snowmobile collision which results in death, injury and/or total property damage of $1,000.00 or more.
Snow Vehicle	A vehicle that has a gross vehicle weight in exceeding 454 kilograms and a. is not equipped with wheels, but in place thereof is equipped with tractor treads alone or with tractor treads and skis, or with skis and a propeller, or is a toboggan equipped with tractor treads or a propeller, b. is designed primarily for operating over snow or ice, and is used primarily for that purpose, and c. is designed to be self-propelled.
Suburban Collision	A collision occurring on the provincial highway system where the posted legal speed limit is 70 or 80 km/h.

Taxicab	A motor vehicle had, kept, used, intended for use, or operated, for the transportation of persons for compensation, and includes such vehicles when garaged or under repair; but does not include a. a public service vehicle, b. a trolley bus or passenger-carrying motor vehicle or a public transportation system operating on the streets of a city, c. a school bus, d. an ambulance, e. a hearse, or f. a motor vehicle, or vehicle of a class of motor vehicles, that The Taxicab Board established under *The Taxicab* Act excludes from the definition of a taxicab under that Act.
Tractor	A self-propelled vehicle that is designed primarily for traction purposes, and that is not itself constructed to carry a load other than the driver, and includes a farm tractor but does not include a truck tractor or a special mobile machine.
Trailer	A vehicle designed for carrying persons or chattels, and for being towed by a motor vehicle, and includes a farm trailer but does not include an implement of husbandry that is temporarily towed, propelled, or moved upon a highway.
Truck	A motor vehicle or semi-trailer truck that is not a delivery car and that is constructed or adapted to carry goods, wares, and merchandise, freight or commodities, but not passengers or luggage.
U-Drive (Drive Yourself Vehicle)	A motor vehicle or trailer, kept for hire, that may be hired or rented without a drivers by the hour, day, week or longer but for which a single rental period is less than 30 days.
Urban Collision	A collision occurring on the provincial highway system where the posted legal speed limit is 50 or 60 km/h.
Vehicle Modification	A motor vehicle in which the axles, body, brakes, engine, steering control or suspension have been substantially altered or replaced with components of a different design or capacity from that approved by the manufacturer of the original vehicle.
Victims	All persons killed or injured in a motor vehicle related collision occurring on a public roadway.